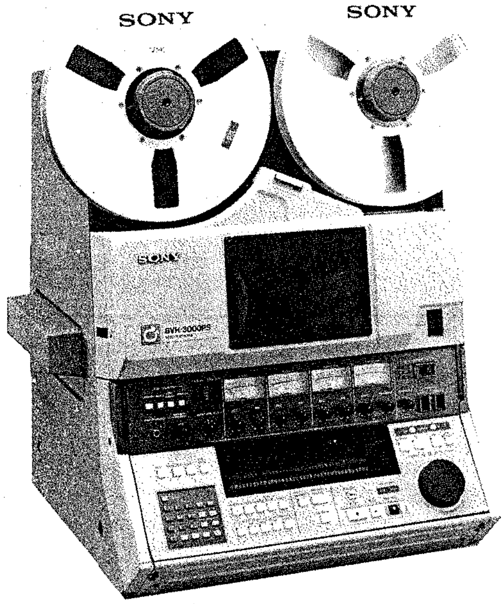
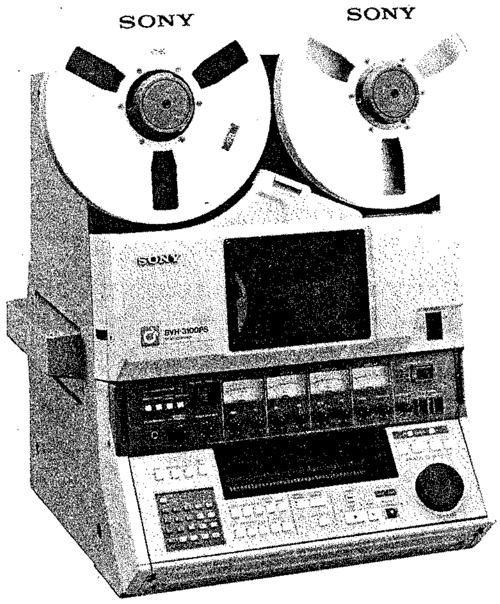
SONY®

VIDEOCORDER

BVH-3000PS
BVH-3100PS


BVH-3000PS


BVH-3100PS

BVH-3000PS/3100PS with this optional part installed:
side panel kit.

MAINTENANCE MANUAL

Volume2 1st Edition (Revised 9)

BVH-3000PS Serial No. 10001 and Higher
BVH-3100PS Serial No. 10001 and Higher

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UPDATE INFORMATION

MODEL NAME **BVH-3000PS／3100PS** (EK) VOL-2 Maintenance Manual
REVISION NO. 1st Edition Revised 9
DATE JUL／17／89

Rev. No.	S. No.	Action	Page
E1 R9	BVH-3100PS 13001 – 13140	Add	B-9(a), 30(4／5-a), 30(5／5-a), 35(a) to 38(a), 44(a), 49(a) to 51(a), 57 to 59, 66, 67, 74, 79 to 81, 85 to 87, 111, 112, 123, 124, 126, 131, 132, 141(5／27), 141(11／27), 155, 177, 180, 187
		Add	C-2, 3, 38, 44
		Add	D-46, 51, 60(a), 61(a), 66, 70, 71, 79(a) to 81(a), 96, 97, 99, 100, 102(a)

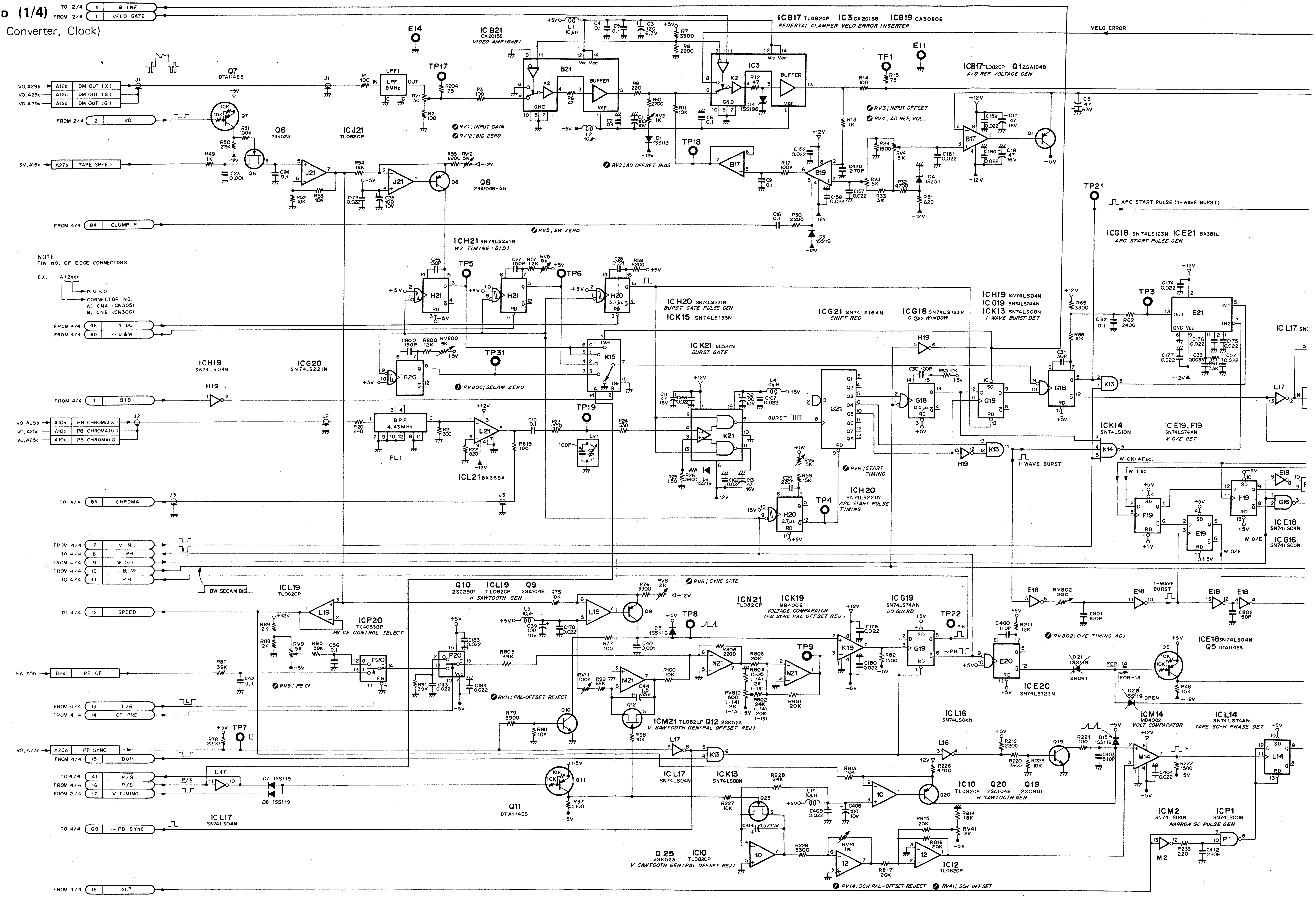
1) "Rev. No." is the corresponding revised number of the service manual for the customer. E1 R1 means 1 Edition Revised 1.
"Serial Number" is the serial number range which the Rev.No. in the left column covers.

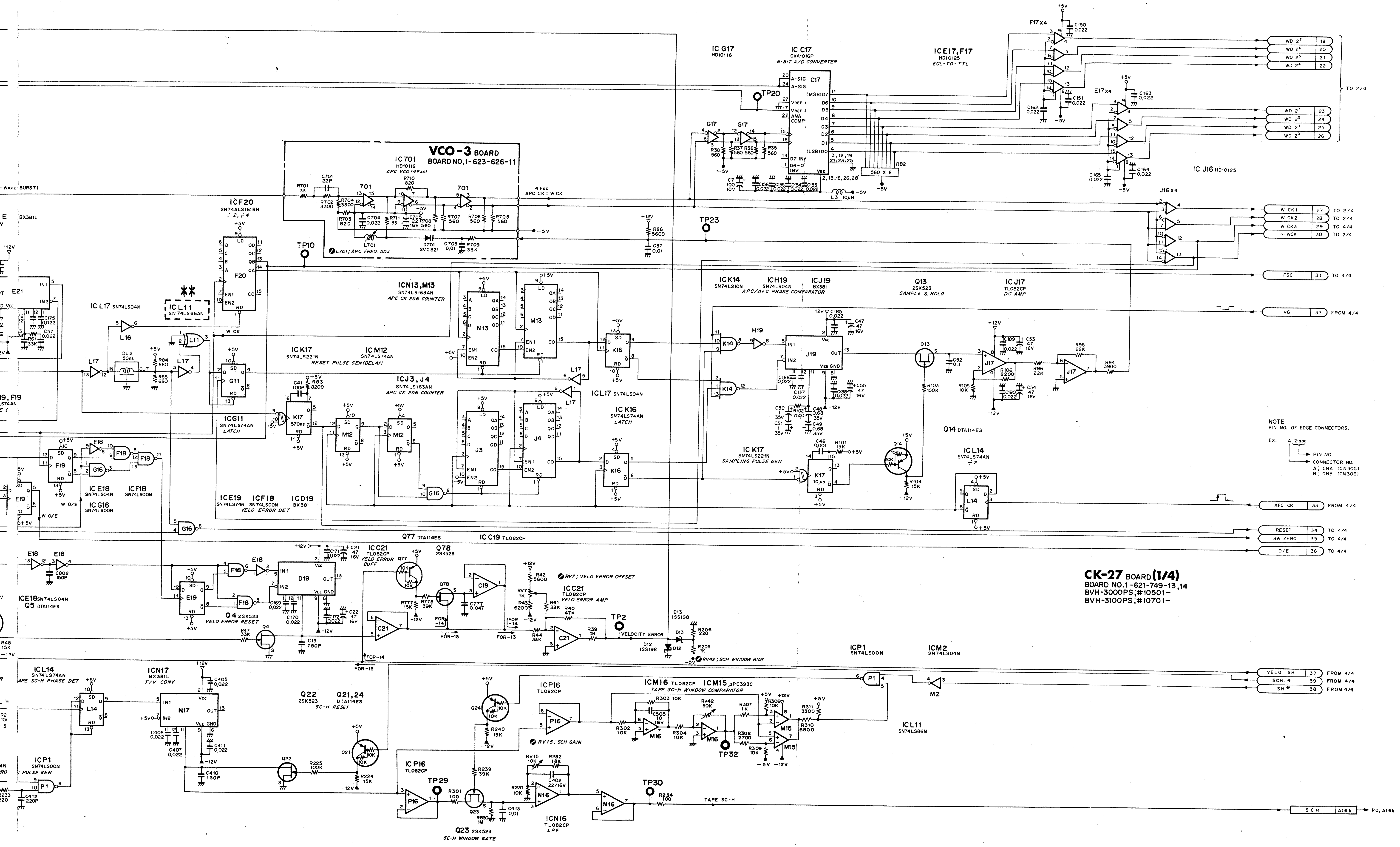
2) The changed portions are indicated by doted line and／or "＊＊" (double asterisk).

3) "N.A." in the serial number column means there is no machine covering this revision.
The machine for the different market, e,g. Japan, may exist for this manual revision.

CK-27 BOARD (1/4)

TBC (AD Converter, Clock)


TO 2/4 5 B INF
FROM 2/4 1 VELO GATE
VELO ERROR
IC B21 CX20158 VIDEO AMP(6dB)
ICB17 TL082CP IC3 CX20158 ICB19 CA3080E
PEDESTAL CLAMPER VELO ERROR INSERTER
ICB17 TL082CP Q1 2SA1048
A/D REF VOLTAGE GEN
VO, A29b A12b DM OUT (X)
VO, A29a A12a DM OUT (G)
VO, A29c A12c DM OUT (G)
FROM 2/4 2 VD
5V, A16a A27b TAPE SPEED
FROM 4/4 84 CLUMP. P
Q7 DTA114ES
Q6 2SK523
IC J21 TL082CP
Q8 2SA1048-GR
LPF1 LPF 8MHz
RV1; INPUT GAIN
RV12; BID ZERO
RV2; AD OFFSET BIAS
RV3; INPUT OFFSET
RV4; AD REF. VOL.
RV5; BW ZERO
TP1 TP5 TP6 TP17 TP18 TP21 TP31 TP19 TP3 TP4 TP7 TP8 TP9 TP22
E11 E14
APC START PULSE (1-WAVE BURST)
ICG18 SN74LS123N ICE21 BX381L
APC START PULSE GEN
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
ICH21 SN74LS221N
WZ TIMING (BID)
IC H20 SN74LS221N
BURST GATE PULSE GEN
ICK15 SN74LS153N
ICG21 SN74LS164N
SHIFT REG
ICG18 SN74LS123N
0.5μs WINDOW
ICH19 SN74LS04N
ICG19 SN74LS74AN
ICK13 SN74LS08N
1-WAVE BURST DET
IC L17 SN
FROM 4/4 46 Y DO
FROM 4/4 80 ~B&W
ICH19 SN74LS04N
ICG20 SN74LS221N
RV800; SECAM ZERO
IC K21 NE527N
BURST GATE
FROM 4/4 3 BID
VO, A25b A10b PB CHROMA(X)
VO, A25a A10a PB CHROMA(G)
VO, A25c A10c PB CHROMA(G)
BPF 4.43MHz
FL1
ICL21 BX365A
BURST
RV6; START TIMING
ICH20 SN74LS221N
APC START PULSE TIMING
1-WAVE BURST
ICK14 SN74LS10N
ICE19, F19 SN74LS74AN
W O/E DET
W CK(4Fsc)
W Fsc
ICE18 SN74LS04N
ICG16 SN74LS00N
W O/E
TO 4/4 83 CHROMA
FROM 4/4 7 V INH
TO 4/4 8 PH
FROM 4/4 9 W O/E
FROM 4/4 10 B.INF
TO 4/4 11 PH
BW SECAM BID
ICL19 TL082CP
TO 4/4 12 SPEED
ICP20 TC4053BP
PB CF CONTROL SELECT
RV9; PB CF
PA, A5b B2a PB CF
FROM 4/4 13 L/R
FROM 4/4 14 CF PRE
Q10 ICL19 Q9
2SC2901 TL082CP 2SA1048
H SAWTOOTH GEN
RV8; SYNC GATE
ICN21 TL082CP
ICK19 M84002
VOLTAGE COMPARATOR
(PB SYNC PAL OFFSET REJ)
IC G19 SN74LS74AN
DO GUARD
RV11; PAL-OFFSET REJECT
ICM21 TL082LP Q12 2SK523
V SAWTOOTH GEN(PAL OFFSET REJ)
RV802; O/E TIMING ADJ
ICE20 SN74LS123N
ICE18 SN74LS04N
Q5 DTA114ES
SHORT
OPEN
FOR-14
FOR-13
VO, A23c A20a PB SYNC
FROM 4/4 15 DOP
TO 4/4 41 P/S
FROM 4/4 16 P/S
FROM 2/4 17 V TIMING
TO 4/4 60 ~PB SYNC
IC L17 SN74LS04N
Q11 DTA114ES
IC L17 SN74LS04N
IC K13 SN74LS08N
IC L16 SN74LS04N
IC10 Q20 Q19
TL082CP 2SA1048 2SC901
H SAWTOOTH GEN
ICM14 M84002
VOLT COMPARATOR
ICL14 SN74LS74AN
TAPE SC-H PHASE DET
ICM2 SN74LS04N
ICP1 SN74LS00N
NARROW SC PULSE GEN
Q25 IC10
2SK523 TL082CP
V SAWTOOTH GEN(PAL OFFSET REJ)
IC12 TL082CP
RV14; SCH PAL-OFFSET REJECT
RV41; SCH OFFSET
FROM 4/4 18 SC

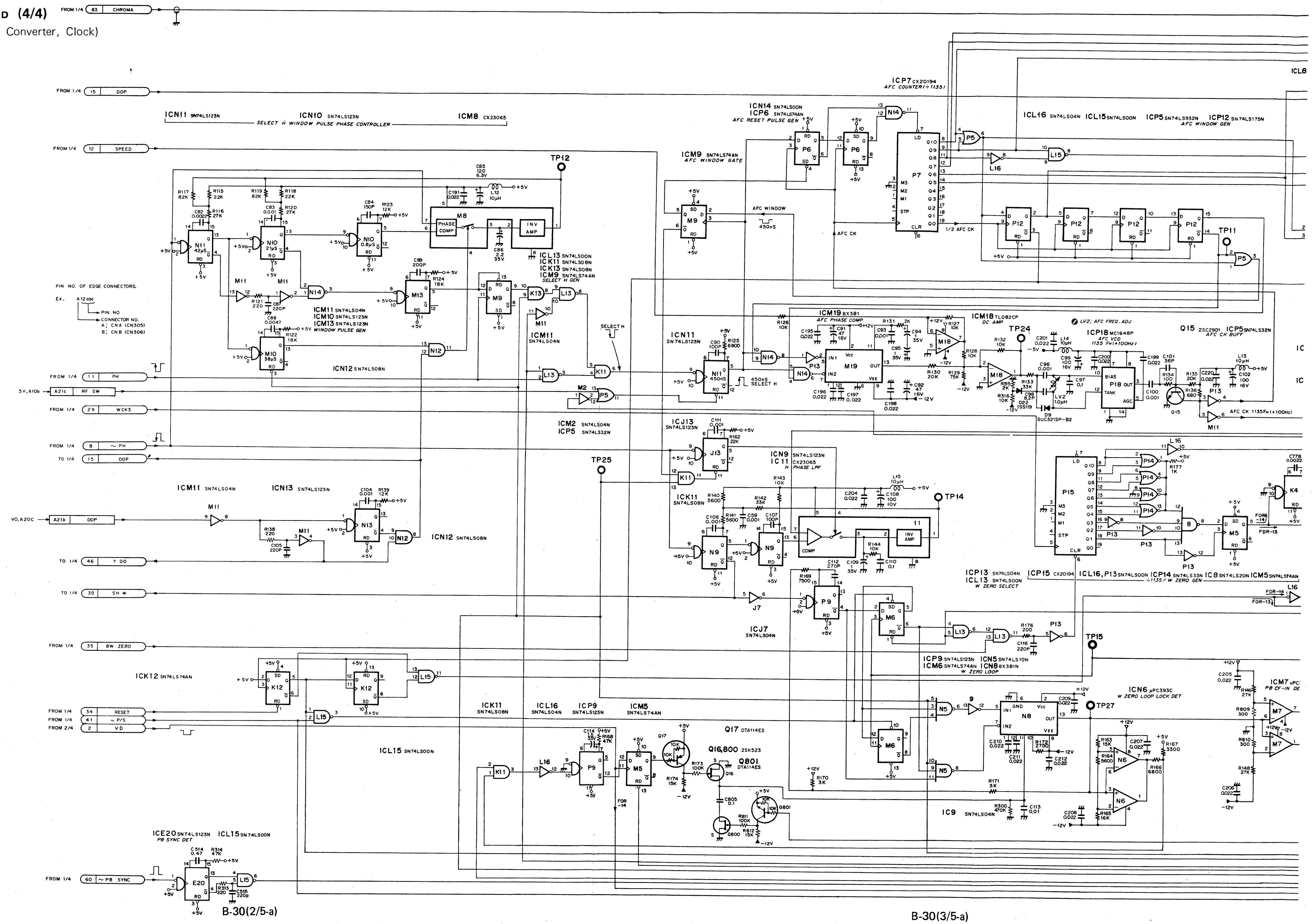

VCO-3 BOARD
BOARD NO.1-623-626-11
IC701 HD10116 APC VCO (4Fsc)
L701; APC FREQ. ADJ
IC G17 HD10116
IC C17 CXA1016P 8-BIT A/D CONVERTER
ICE17,F17 HD10125 ECL-TO-TTL
IC J16 HD10125
ICF20 SN74LS161BN ÷2, ÷4
ICL11 SN74LS86AN
IC L17 SN74LS04N
ICN13,M13 SN74LS163AN APC CK 256 COUNTER
ICK17 SN74LS221N RESET PULSE GEN(DELAY)
ICM12 SN74LS74AN
ICJ3,J4 SN74LS163AN APC CK 256 COUNTER
ICG11 SN74LS74AN LATCH
ICL17 SN74LS04N
IC K16 SN74LS74AN LATCH
ICK14 SN74LS10N
ICH19 SN74LS04N APC/AFC PHASE COMPARATOR
ICJ19 BX381
Q13 2SK523 SAMPLE & HOLD
IC J17 TL082CP DC AMP
IC K17 SN74LS221N SAMPLING PULSE GEN
Q14 DTA114ES
IC L14 SN74LS74AN ÷2
ICE18 SN74LS04N
ICF18 SN74LS00N
IC G16 SN74LS00N
ICE19 SN74LS74N
ICF18 SN74LS00N
ICD19 BX381
VELO ERROR DET
Q77 DTA114ES
ICC19 TL082CP
ICC21 TL082CP VELO ERROR BUFF
Q78 2SK523
RV7; VELO ERROR OFFSET
ICC21 TL082CP VELO ERROR AMP
Q4 2SK523 VELO ERROR RESET
ICE18 SN74LS04N
Q5 DTA114ES
TP2 VELOCITY ERROR
RV42; SCH WINDOW BIAS
ICL14 SN74LS74AN TAPE SC-H PHASE DET
ICN17 BX381L T/V CONV
Q22 2SK523
Q21,24 DTA114ES SC-H RESET
ICP1 SN74LS00N PULSE GEN
ICP16 TL082CP
RV15; SCH GAIN
ICM16 TL082CP ICM15 μPC393C TAPE SC-H WINDOW COMPARATOR
ICP1 SN74LS00N
ICM2 SN74LS04N
ICL11 SN74LS86N
ICP16 TL082CP
Q23 2SK523 SC-H WINDOW GATE
ICN16 TL082CP LPF
TAPE SC-H
TP10 TP20 TP23 TP29 TP30 TP32
WD 2⁷ 19
WD 2⁶ 20
WD 2⁵ 21
WD 2⁴ 22
WD 2³ 23
WD 2² 24
WD 2¹ 25
WD 2⁰ 26
TO 2/4
W CK1 27 TO 2/4
W CK2 28 TO 2/4
W CK3 29 TO 4/4
~WCK 30 TO 2/4
FSC 31 TO 4/4
VG 32 FROM 4/4
AFC CK 33 FROM 4/4
RESET 34 TO 4/4
BW ZERO 35 TO 4/4
O/E 36 TO 4/4
VELO SH 37 FROM 4/4
SCH. R 39 FROM 4/4
SH* 38 FROM 4/4
SCH A16b RO, A16b
4Fsc APC CK = W CK

NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)

CK-27 BOARD(1/4)
BOARD NO.1-621-749-13,14
BVH-3000PS;#10501-
BVH-3100PS;#10701-

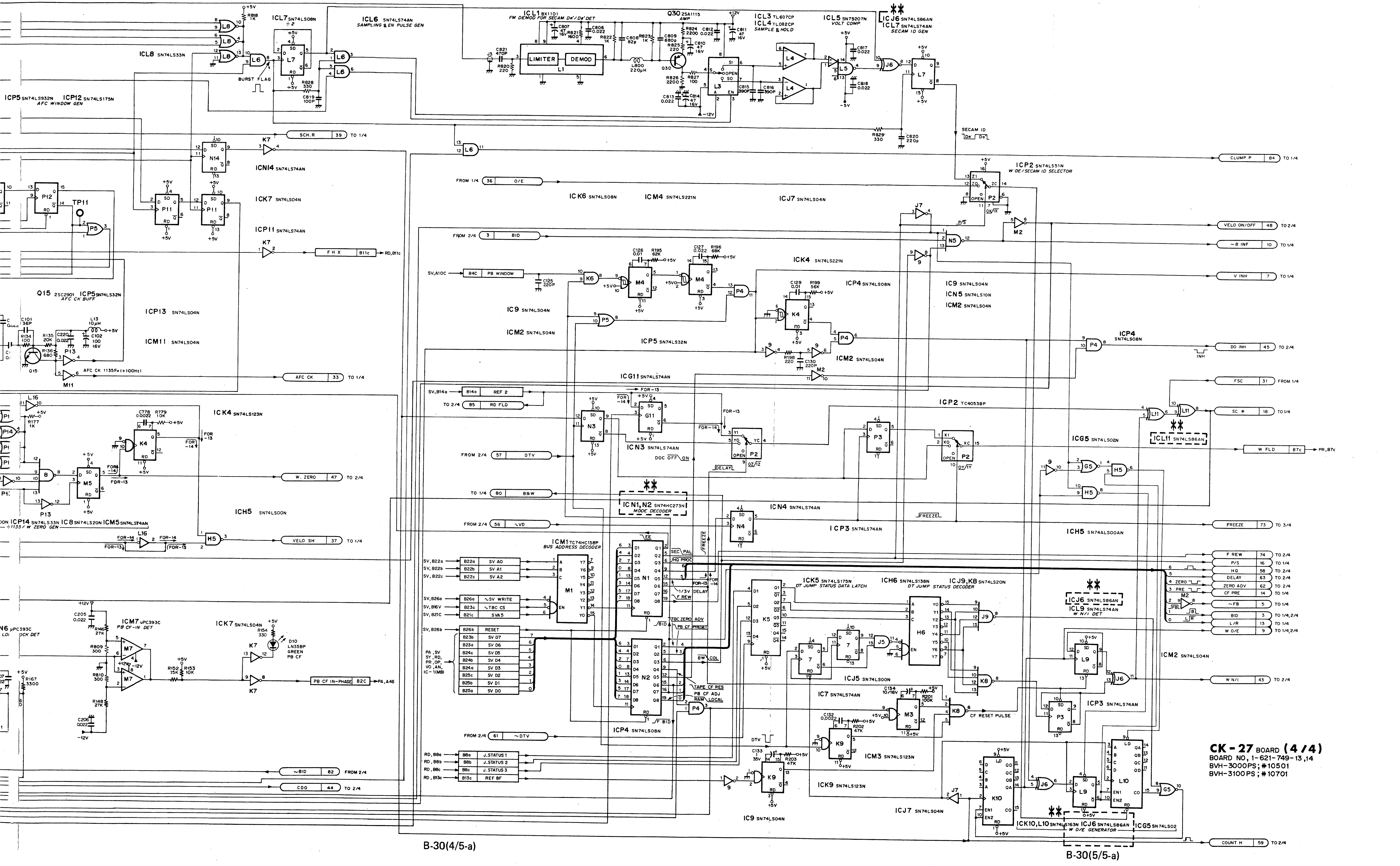
CK-27 BOARD (4/4)

TBC (AD Converter, Clock)


FROM 1/4 83 CHROMA
FROM 1/4 15 DOP
FROM 1/4 12 SPEED
FROM 1/4 11 PH
5V,A10b A21c RF SW
FROM 1/4 29 WCK3
FROM 1/4 8 ~PH
TO 1/4 15 DOP
V0,A20C A21b DOP
TO 1/4 46 Y DO
TO 1/4 38 SH *
FROM 1/4 35 BW ZERO
FROM 1/4 34 RESET
FROM 1/4 41 ~P/S
FROM 2/4 2 VD
FROM 1/4 60 ~PB SYNC
PIN NO. OF EDGE CONNECTORS.
Ex. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
ICN11 SN74LS123N
ICN10 SN74LS123N
ICM8 CX23065
SELECT H WINDOW PULSE PHASE CONTROLLER
ICM11 SN74LS04N
ICM10 SN74LS123N
ICM13 SN74LS123N
WINDOW PULSE GEN
ICN12 SN74LS08N
ICL13 SN74LS00N
ICK11 SN74LS08N
ICK13 SN74LS08N
ICM9 SN74LS74AN
SELECT H GEN
ICM2 SN74LS04N
ICP5 SN74LS32N
TP12
TP25
TP24
TP14
TP11
TP15
TP27
PHASE COMP
INV AMP
SELECT H
ICN14 SN74LS00N
ICP6 SN74LS74AN
AFC RESET PULSE GEN
ICP7 CX20194
AFC COUNTER(÷1135)
ICM9 SN74LS74AN
AFC WINDOW GATE
AFC WINDOW
450nS
AFC CK
1/2 AFC CK
ICL16 SN74LS04N
ICL15 SN74LS00N
ICP5 SN74LS32N
ICP12 SN74LS175N
AFC WINDOW GEN
ICL8
ICN11 SN74LS123N
ICM19 BX381
AFC PHASE COMP
ICM18 TL082CP
DC AMP
LV2; AFC FREQ. ADJ
ICP18 MC1648P
AFC VCO
1135 FH(+100Hz)
Q15 2SC2901
ICP5 SN74LS32N
AFC CK BUFF
AFC CK 1135FH(+100Hz)
BIAS
TANK
AGC
D9 SUC321SP-B2
ICJ13 SN74LS123N
ICK11 SN74LS08N
ICN9 SN74LS123N
IC11 CX23065
H PHASE LPF
COMP
INV AMP
ICJ7 SN74LS04N
ICP13 SN74LS04N
ICL13 SN74LS00N
W ZERO SELECT
ICP15 CX20194
ICL16, P13 SN74LS00N
ICP14 SN74LS33N
IC8 SN74LS20N
ICM5 SN74LS74AN
÷1135 / W ZERO GEN
FOR-14
FOR-13
ICP9 SN74LS123N
ICM6 SN74LS74AN
ICN5 SN74LS10N
ICN8 BX381N
W ZERO LOOP
ICN6 μPC393C
W ZERO LOOP LOCK DET
ICM7 μPC
PB CF-IN DE
IC9 SN74LS04N
ICK12 SN74LS74AN
ICK11 SN74LS08N
ICL16 SN74LS04N
ICP9 SN74LS123N
ICM5 SN74LS74AN
ICL15 SN74LS00N
Q17 DTA114ES
Q16,800 2SK523
Q801 DTA114ES
ICE20 SN74LS123N
ICL15 SN74LS00N
PB SYNC DET

B-30(2/5-a)

B-30(3/5-a)


ICL1 BX1101
FM DEMOD FOR SECAM DR'/DB' DET
LIMITER
DEMOD
Q30 2SA1115 AMP
ICL3 TL607CP
ICL4 TL082CP
SAMPLE & HOLD
ICL5 SN75207N
VOLT COMP
ICJ6 SN74LS86AN
ICL7 SN74LS74AN
SECAM ID GEN
ICL7 SN74LS08N ÷2
ICL6 SN74LS74AN
SAMPLING & EN PULSE GEN
ICL8 SN74LS33N
BURST FLAG
ICP5 SN74LS932N
ICP12 SN74LS175N
AFC WINDOW GEN
SCH.R 39 TO 1/4
ICN14 SN74LS74AN
ICK7 SN74LS04N
ICP11 SN74LS74AN
FHX B11c RD,B11c
TP11
Q15 2SC2901
ICP5 SN74LS32N
AFC CK BUFF
ICP13 SN74LS04N
ICM11 SN74LS04N
AFC CK 1135FH(+100Hz)
AFC CK 33 TO 1/4
ICK4 SN74LS123N
W. ZERO 47 TO 2/4
ICP14 SN74LS33N
IC8 SN74LS20N
ICM5 SN74LS74AN
÷1135/W ZERO GEN
ICH5 SN74LS00N
VELO SH 37 TO 1/4
ICM7 μPC393C
PB CF-IN DET
ICK7 SN74LS04N
D10 LN35BP GREEN PB CF
PB CF IN-PHASE B2C PA,A46
~BID 82 FROM 2/4
CDO 44 TO 2/4
SECAM ID
CLUMP P 84 TO 1/4
ICP2 SN74LS51N
W OE/SECAM ID SELECTOR
FROM 1/4 36 O/E
ICK6 SN74LS08N
ICM4 SN74LS221N
ICJ7 SN74LS04N
VELO ON/OFF 48 TO 2/4
FROM 2/4 3 BID
~B INF 10 TO 1/4
SV,A10C B4C PB WINDOW
V INH 7 TO 1/4
ICK4 SN74LS221N
ICP4 SN74LS08N
IC9 SN74LS04N
ICN5 SN74LS10N
ICM2 SN74LS04N
ICP5 SN74LS32N
ICP4 SN74LS08N
DO INH 45 TO 2/4
ICG11 SN74LS74AN
FSC 31 FROM 1/4
SV,B14a B14a REF 2
TO 2/4 85 RD FLD
ICP2 TC4053BP
SC* 18 TO 1/4
ICL11 SN74LS86AN
ICN3 SN74LS74AN
DOC OFF ON
FROM 2/4 57 DTV
W FLD B7c PR,B7c
ICG5 SN74LS02N
TO 1/4 80 BBW
ICN1,N2 SN74HC273N
MODE DECODER
ICN4 SN74LS74AN
FREEZE
FROM 2/4 56 ~VD
ICP3 SN74LS74AN
ICH5 SN74ALS00AN
FREEZE 73 TO 3/4
ICM1 TC74HC138P
BUS ADDRESS DECODER
SV A0
SV A1
SV A2
~SV WRITE
~TBC CS
SVA5
RESET
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
SEC PAL
HQ PROC
1/3V DELAY
F REW
TBC ZERO ADV
PB CF PRESET
BW COL
TAPE CF RES
PB CF ADJ
RAM LOCAL
F BID
ICP4 SN74LS08N
ICK5 SN74LS175N
DT JUMP STATUS DATA LATCH
ICH6 SN74LS138N
ICJ9,K8 SN74LS20N
DT JUMP STATUS DECODER
F REW 74 TO 2/4
P/S 16 TO 1/4
HQ 58 TO 2/4
DELAY 63 TO 2/4
ZERO ADV 62 TO 2/4
CF PRE 14 TO 1/4
~FB 15 TO 1/4
BID 3 TO 1/4,2/4
L/R 13 TO 1/4
W O/E 9 TO 1/4,2/4
ICJ6 SN74LS86AN
ICL9 SN74LS74AN
W N/I DET
ICM2 SN74LS04N
W N/I 43 TO 2/4
ICJ5 SN74LS00N
IC7 SN74LS74AN
CF RESET PULSE
ICP3 SN74LS74AN
ICM3 SN74LS123N
FROM 2/4 61 ~DTV
J.STATUS 1
J.STATUS 2
J.STATUS 3
REF BF
ICK9 SN74LS123N
IC9 SN74LS04N
ICJ7 SN74LS04N
ICK10,L10 SN74LS163N
ICJ6 SN74LS86AN
W O/E GENERATOR
ICG5 SN74LS02
COUNT H 59 TO 2/4

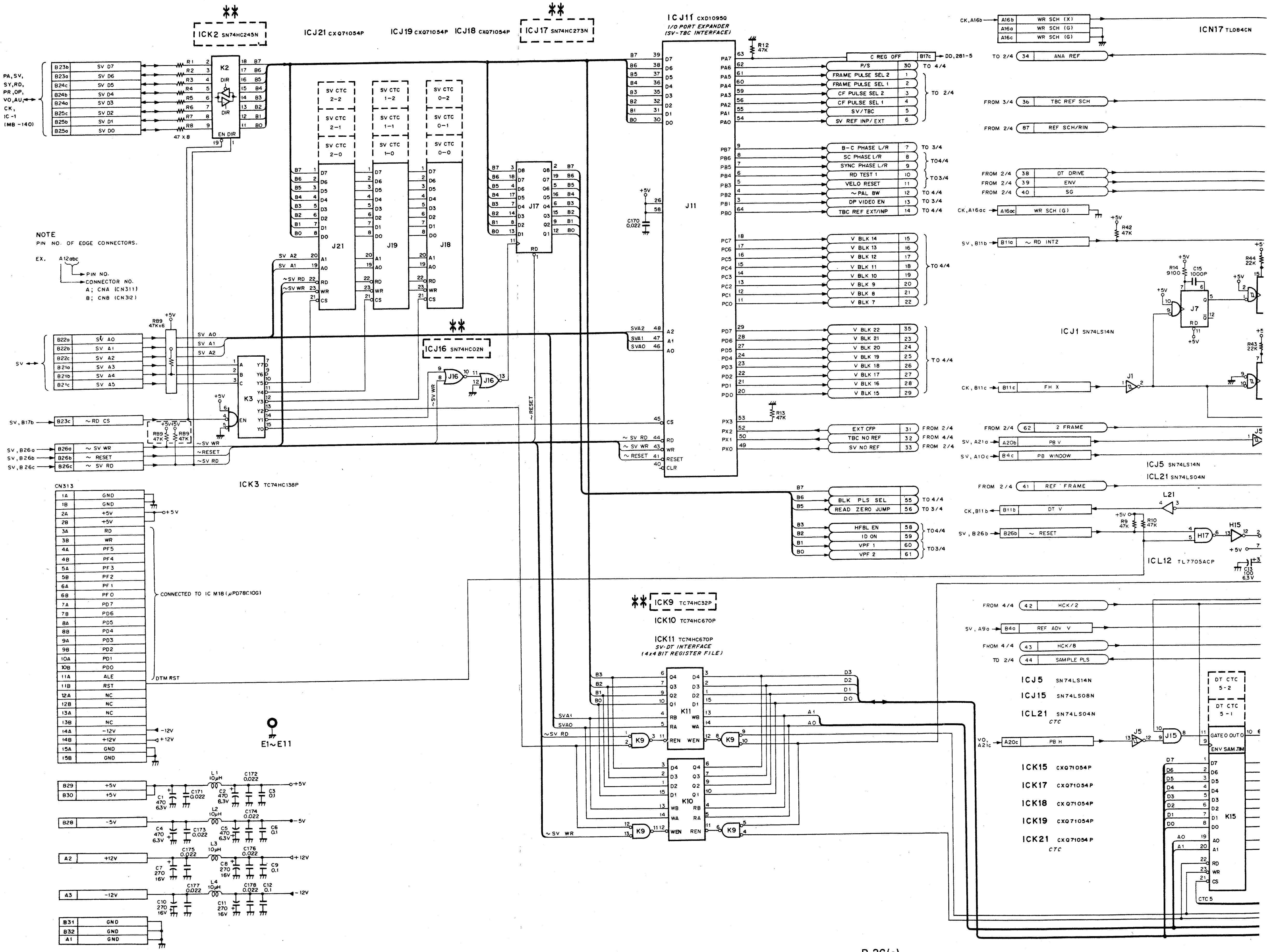
B-30(4/5-a)

B-30(5/5-a)

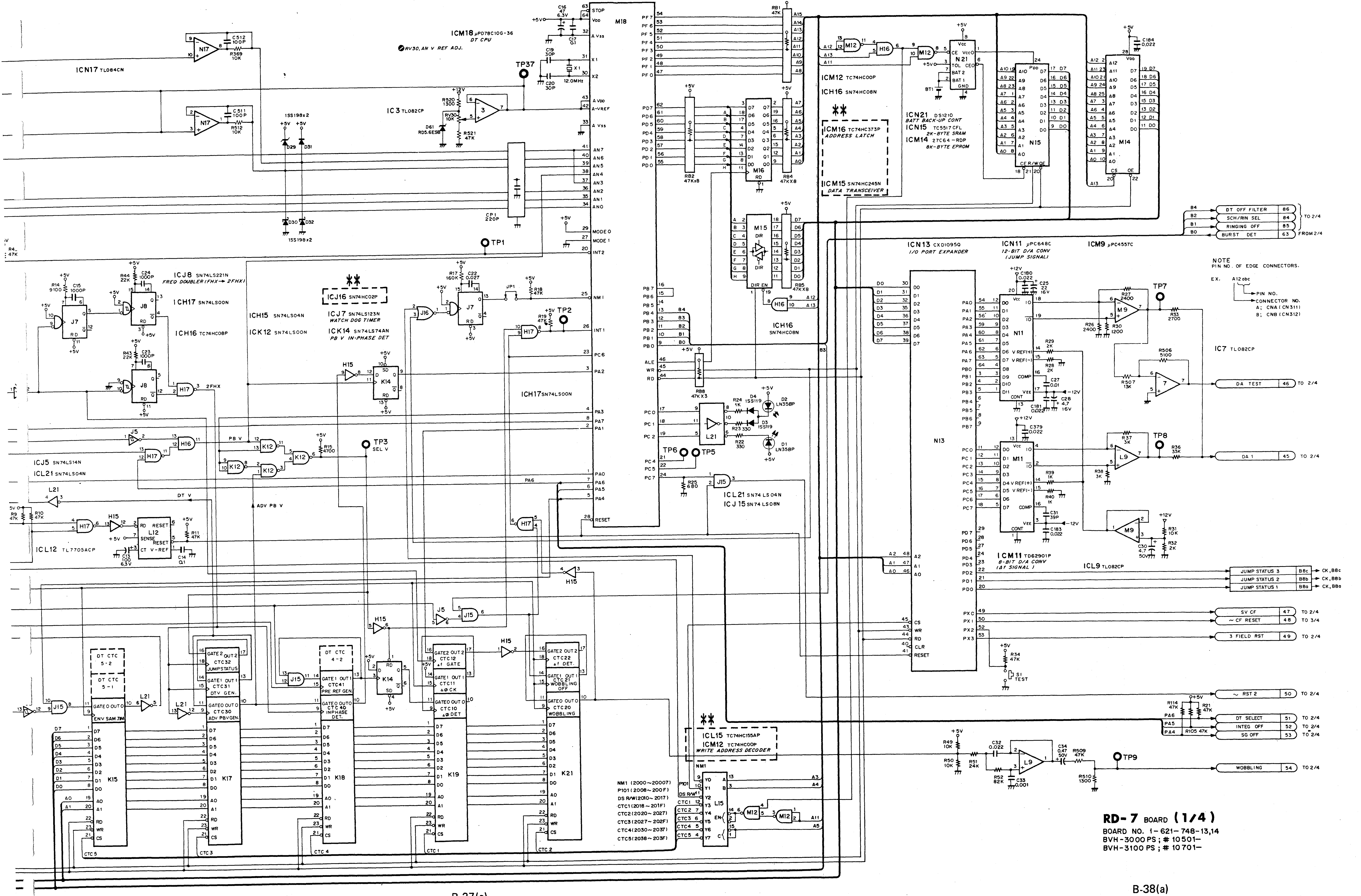
CK-27 BOARD **(4/4)**
BOARD NO, 1-621-749-13,14
BVH-3000PS; #10501
BVH-3100PS; #10701

RD-7 BOARD (1/4)

DT Control (Digital Section)



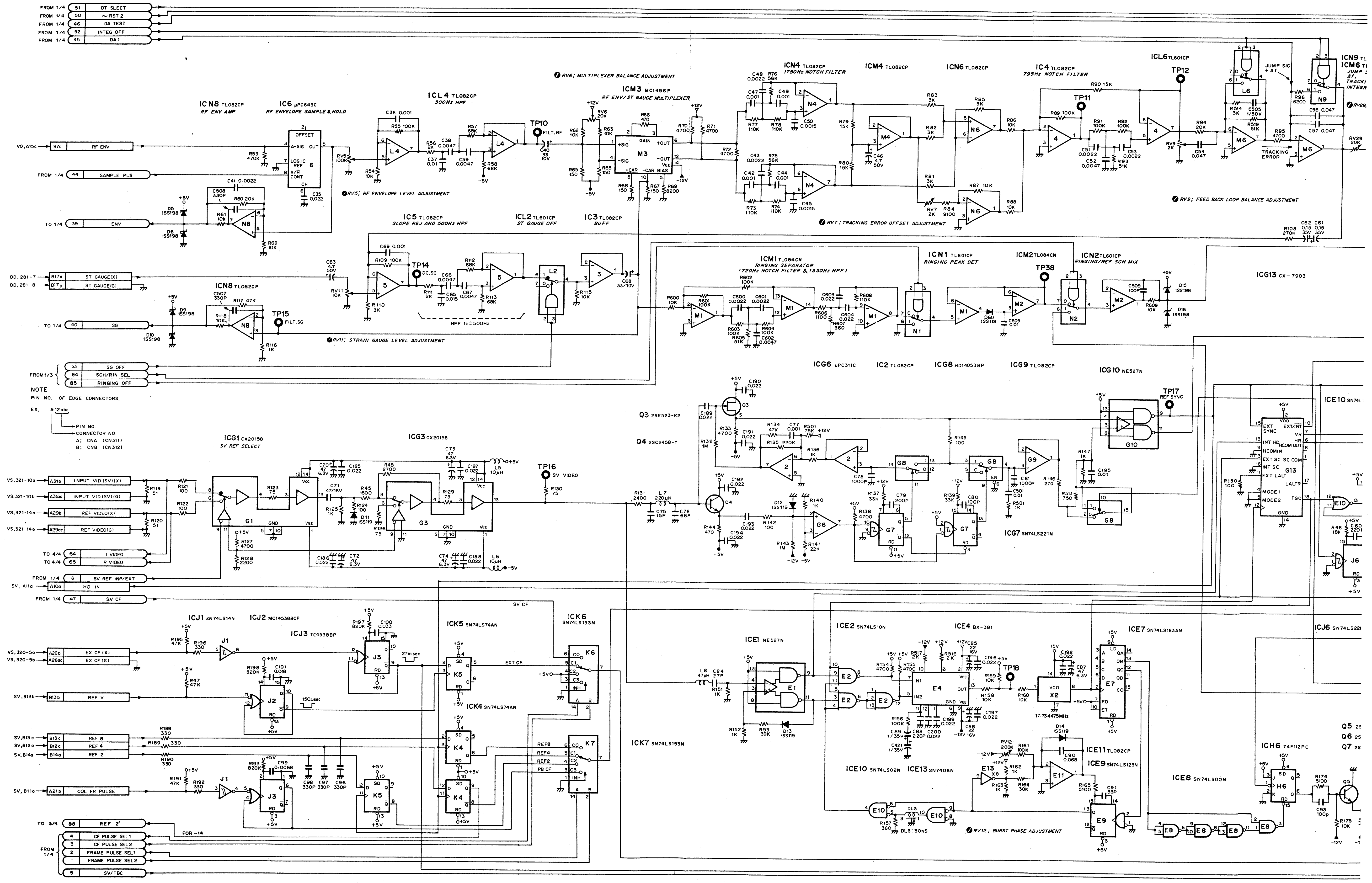
ICK2 SN74HC245N
ICJ21 CXQ71054P
ICJ19 CXQ71054P
ICJ18 CXQ71054P
ICJ17 SN74HC273N
ICJ11 CXD1095Q
I/O PORT EXPANDER (SV-TBC INTERFACE)
ICN17 TL084CN
PA, SV, SY, RD, PR, OP, VO, AU, CK, IC-1 (MB-140)
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
47 X 8
SV CTC 2-2
SV CTC 2-1
SV CTC 2-0
SV CTC 1-2
SV CTC 1-1
SV CTC 1-0
SV CTC 0-2
SV CTC 0-1
SV CTC 0-0
J21
J19
J18
J17
J11
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
R89 47K×6
SV A0
SV A1
SV A2
SV A3
SV A4
SV A5
ICJ16 SN74HC02N
~RD CS
~SV WR
~RESET
~SV RD
ICK3 TC74HC138P
K3
CN313
GND
+5V
RD
WR
PF5
PF4
PF3
PF2
PF1
PF0
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
ALE
RST
NC
-12V
+12V
CONNECTED TO IC M18 (μPD78C10G)
DTM RST
E1~E11
C REG OFF
P/S
FRAME PULSE SEL 2
FRAME PULSE SEL 1
CF PULSE SEL 2
CF PULSE SEL 1
SV/TBC
SV REF INP/EXT
TO 4/4
TO 2/4
B-C PHASE L/R
SC PHASE L/R
SYNC PHASE L/R
RD TEST 1
VELO RESET
~PAL BW
DP VIDEO EN
TBC REF EXT/INP
TO 3/4
V BLK 14
V BLK 13
V BLK 12
V BLK 11
V BLK 10
V BLK 9
V BLK 8
V BLK 7
V BLK 22
V BLK 21
V BLK 20
V BLK 19
V BLK 18
V BLK 17
V BLK 16
V BLK 15
EXT CFP
TBC NO REF
SV NO REF
FROM 2/4
FROM 4/4
BLK PLS SEL
READ ZERO JUMP
HFBL EN
ID ON
VPF 1
VPF 2
WR SCH (X)
WR SCH (G)
ANA REF
FROM 3/4
TBC REF SCH
REF SCH/RIN
DT DRIVE
ENV
SG
~RD INT2
ICJ1 SN74LS14N
FH X
2 FRAME
PB V
PB WINDOW
ICJ5 SN74LS14N
ICL21 SN74LS04N
REF FRAME
DT V
~RESET
ICL12 TL7705ACP
ICK9 TC74HC32P
ICK10 TC74HC670P
ICK11 TC74HC670P
SV-DT INTERFACE (4×4 BIT REGISTER FILE)
K11
K10
K9
HCK/2
REF ADV V
HCK/8
SAMPLE PLS
ICJ5 SN74LS14N
ICJ15 SN74LS08N
ICL21 SN74LS04N
CTC
PB H
ICK15 CXQ71054P
ICK17 CXQ71054P
ICK18 CXQ71054P
ICK19 CXQ71054P
ICK21 CXQ71054P
CTC
DT CTC 5-2
DT CTC 5-1
GATE0 OUT0
ENV SAM.TIM
K15
CTC5

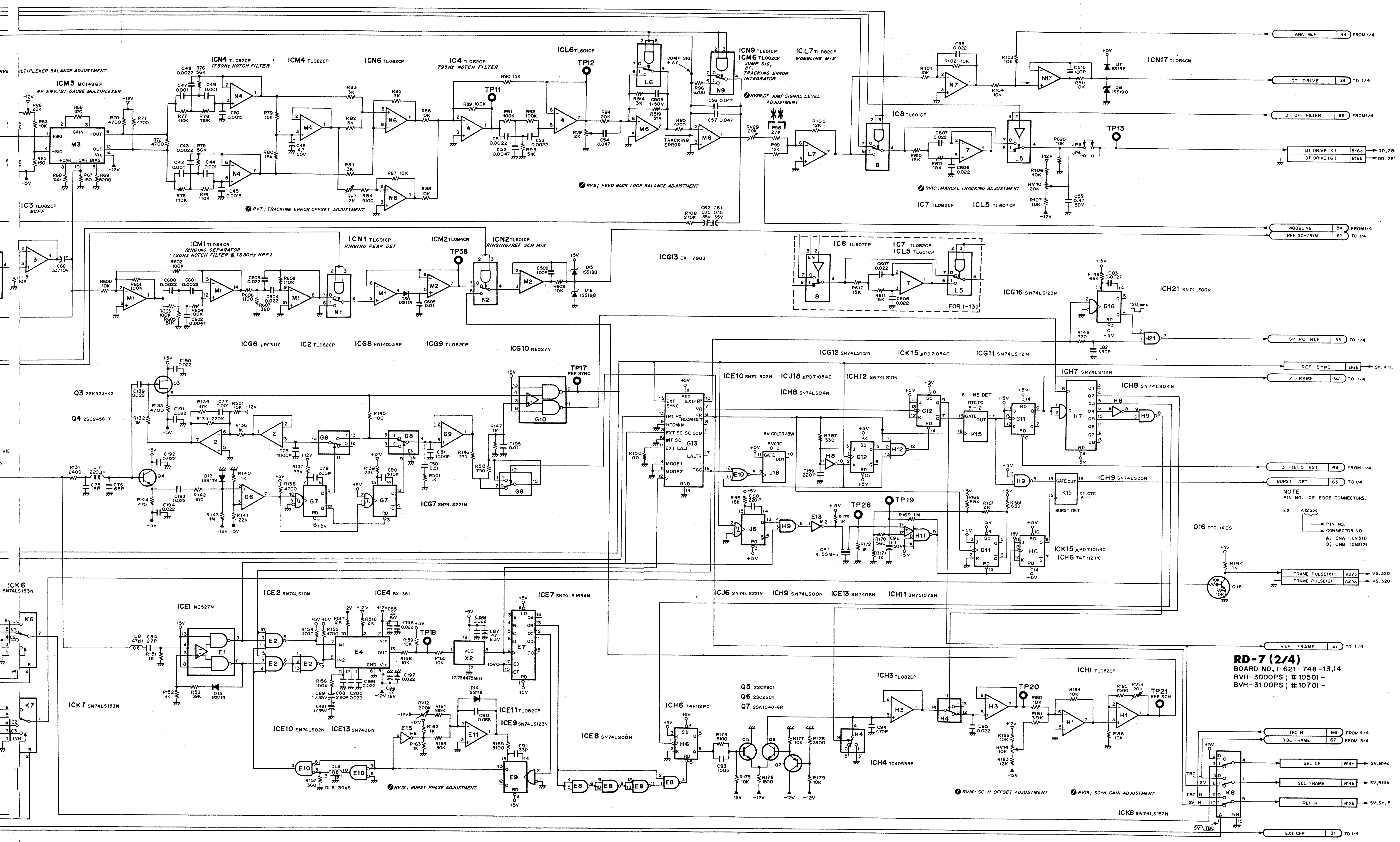

ICN17 TL084CN
ICM18 μPD78C10G-36
DT CPU
RV30, AN V REF ADJ.
IC3 TL082CP
TP37
TP1
TP2
TP3
SEL V
TP5
TP6
TP7
TP8
TP9
M18
ICJ8 SN74LS221N
FREQ DOUBLER (FHX→2FHX)
ICH17 SN74LS00N
ICH16 TC74HC08P
ICJ16 SN74HC02P
ICJ7 SN74LS123N
WATCH DOG TIMER
ICK14 SN74LS74AN
PB V IN-PHASE DET
ICH15 SN74LS04N
ICK12 SN74LS00N
ICH17 SN74LS00N
ICJ5 SN74LS14N
ICL21 SN74LS04N
ICL12 TL7705ACP
ICL21 SN74LS04N
ICJ15 SN74LS08N
ICM12 TC74HC00P
ICH16 TC74HC08N
ICM16 TC74HC373P
ADDRESS LATCH
ICM15 SN74HC245N
DATA TRANSCEIVER
ICN21 DS1210
BATT BACK-UP CONT
ICN15 TC5517CFL
2K-BYTE SRAM
ICM14 27C64-RDP
8K-BYTE EPROM
ICH16 SN74HC08N
ICN13 CXD1095Q
I/O PORT EXPANDER
ICN11 μPC648C
12-BIT D/A CONV
(JUMP SIGNAL)
ICM9 μPC4557C
ICM11 TD62901P
8-BIT D/A CONV
(ΔT SIGNAL)
ICL9 TL082CP
IC7 TL082CP
ICL15 TC74HC155AP
ICM12 TC74HC00P
WRITE ADDRESS DECODER
DT CTC 5-2
DT CTC 5-1
DT CTC 4-2
CTC32 JUMPSTATUS
CTC31 DTV GEN.
CTC30 ADV PBVGEN.
CTC41 PRE REF GEN.
CTC40 INPHASE DET.
CTC12 ΔT GATE
CTC11 ΔΦ CK
CTC10 ΔΦ DET
CTC22 ΔT DET.
CTC21 WOBBLING OFF
CTC20 WOBBLING
ENV SAM.TIM
K15
K17
K18
K19
K21
L15
N13
N11
M11
N15
M14
M16
M15
N21
NM1 (2000~20007)
PI01 (2008~200F)
DS R/W (2010~2017)
CTC1 (2018~201F)
CTC2 (2020~2027)
CTC3 (2027~202F)
CTC4 (2030~2037)
CTC5 (2038~203F)
DT OFF FILTER 86
SCH/RIN SEL 84
RINGING OFF 85
BURST DET 63
TO 2/4
FROM 2/4
DA TEST 46 TO 2/4
DA 1 45 TO 2/4
JUMP STATUS 3 B8c CK,B8c
JUMP STATUS 2 B8b CK,B8b
JUMP STATUS 1 B8a CK,B8a
SV CF 47 TO 2/4
~ CF RESET 48 TO 3/4
3 FIELD RST 49 TO 2/4
~ RST 2 50 TO 2/4
DT SELECT 51 TO 2/4
INTEG OFF 52 TO 2/4
SG OFF 53 TO 2/4
WOBBLING 54 TO 2/4
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
S1 TEST
2FHX
DT V
ADV PB V
PB V
PA6
12.0MHz

RD-7 BOARD **(1/4)**
BOARD NO. 1-621-748-13,14
BVH-3000PS ; # 10501-
BVH-3100PS ; # 10701-

RD-7 BOARD (2/4)

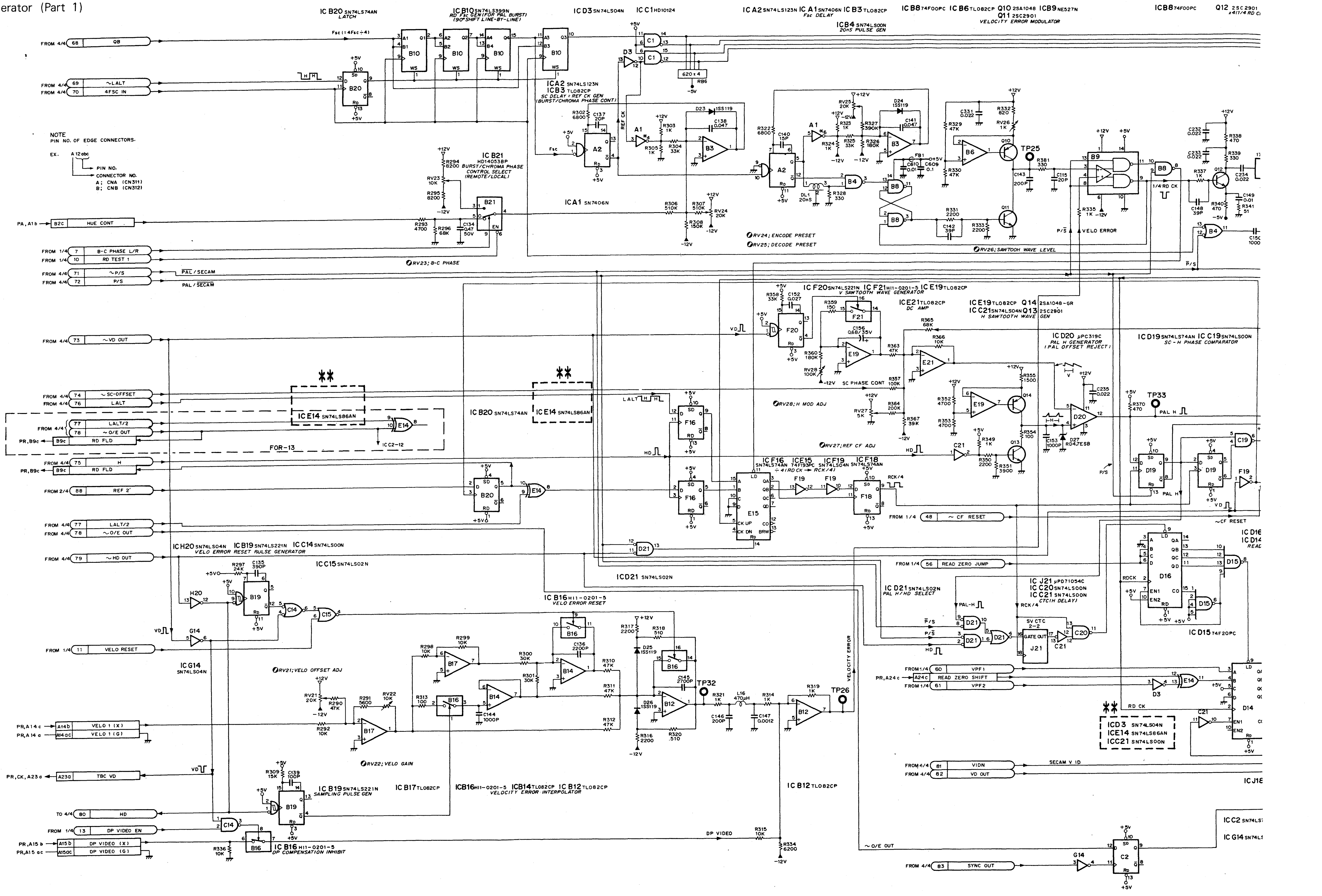
DT Control (Analog Section)
Servo Reference Signal Generator

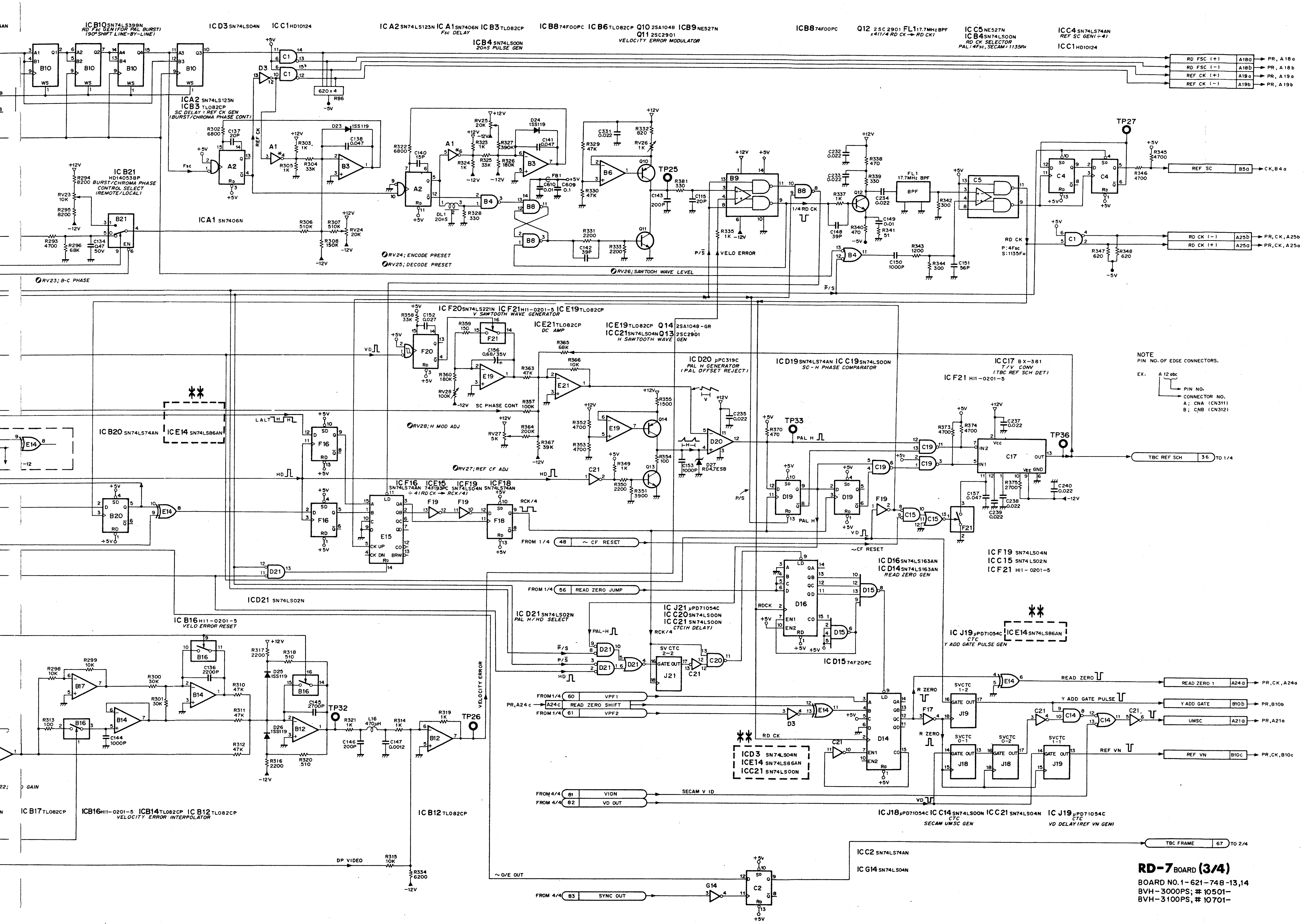

FROM 1/4 51 DT SLECT
FROM 1/4 50 ~RST 2
FROM 1/4 46 DA TEST
FROM 1/4 52 INTEG OFF
FROM 1/4 45 DA1
ICN8 TL082CP RF ENV AMP
IC6 μPC649C RF ENVELOPE SAMPLE & HOLD
ICL4 TL082CP 500Hz HPF
ICM3 MC1496P RF ENV/ST GAUGE MULTIPLEXER
RV6; MULTIPLEXER BALANCE ADJUSTMENT
ICN4 TL082CP 1750Hz NOTCH FILTER
ICM4 TL082CP
ICN6 TL082CP
IC4 TL082CP 795Hz NOTCH FILTER
ICL6 TL601CP
ICN9 TL
ICM6 T
JUMP SIG + Δf
TP10 FILT.RF
TP11
TP12
VO, A15c B7c RF ENV
FROM 1/4 44 SAMPLE PLS
TO 1/4 39 ENV
RV5; RF ENVELOPE LEVEL ADJUSTMENT
RV7; TRACKING ERROR OFFSET ADJUSTMENT
RV9; FEED BACK LOOP BALANCE ADJUSTMENT
TRACKING ERROR
IC5 TL082CP SLOPE REJ AND 500Hz HPF
ICL2 TL601CP ST GAUGE OFF
IC3 TL082CP BUFF
TP14 DC.SG
HPF fc≒500Hz
DD, 281-7 B17a ST GAUGE(X)
DD, 281-8 B17b ST GAUGE(G)
ICN8 TL082CP
TP15 FILT.SG
TO 1/4 40 SG
RV11; STRAIN GAUGE LEVEL ADJUSTMENT
ICM1 TL084CN RINGING SEPARATOR (720Hz NOTCH FILTER & 1350Hz HPF)
ICN1 TL601CP RINGING PEAK DET
ICM2 TL084CN
ICN2 TL601CP RINGING/REF SCH MIX
TP38
ICG13 CX-7903
FROM 1/3 53 SG OFF
84 SCH/RIN SEL
85 RINGING OFF
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
Q3 2SK523-K2
Q4 2SC2458-Y
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
TP17 REF SYNC
ICE10 SN74L
ICG1 CX20158 SV REF SELECT
ICG3 CX20158
TP16 SV VIDEO
VS, 321-10a A31b INPUT VID(SV)(X)
VS, 321-10b A31ac INPUT VID(SV)(G)
VS, 321-14a A29b REF VIDEO(X)
VS, 321-14b A29ac REF VIDEO(G)
TO 4/4 64 I VIDEO
TO 4/4 65 R VIDEO
FROM 1/4 6 SV REF INP/EXT
SV, A11a A10a HD IN
FROM 1/4 47 SV CF
ICG7 SN74LS221N
G13
ICJ1 SN74LS14N
ICJ2 MC14538BCP
ICJ3 TC4538BP
ICK5 SN74LS74AN
ICK6 SN74LS153N
ICK4 SN74LS74AN
ICK7 SN74LS153N
VS, 320-5a A26b EX CF(X)
VS, 320-5b A26ac EX CF(G)
SV, B13b B13b REF V
SV, B13c B13c REF 8
SV, B12a B12c REF 4
SV, B14a B14a REF 2
SV, B11a A21b COL FR PULSE
TO 3/4 88 REF 2'
FOR-14
FROM 1/4 4 CF PULSE SEL1
3 CF PULSE SEL2
2 FRAME PULSE SEL1
1 FRAME PULSE SEL2
5 SV/TBC
27msec
150μsec
EXT CF
REF8
REF4
REF2
PB CF
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
ICE7 SN74LS163AN
TP18
VCO X2
17.734475MHz
ICE11 TL082CP
ICE9 SN74LS123N
ICE10 SN74LS02N
ICE13 SN7406N
ICE8 SN74LS00N
ICH6 74F112PC
ICJ6 SN74LS221
DL3: 30nS
RV12; BURST PHASE ADJUSTMENT
Q5 2S
Q6 2S
Q7 2S


ICM3 MC1496P
RF ENV/ST GAUGE MULTIPLEXER
ULTIPLEXER BALANCE ADJUSTMENT
ICN4 TL082CP
1750Hz NOTCH FILTER
ICM4 TL082CP
ICN6 TL082CP
IC4 TL082CP
795Hz NOTCH FILTER
ICL6 TL601CP
TP11
TP12
JUMP SIG +Δf
ICN9 TL601CP
ICM6 TL082CP
JUMP SIG, Δf, TRACKING ERROR INTEGRATOR
ICL7 TL082CP
WOBBLING MIX
TRACKING ERROR
RV29; DT JUMP SIGNAL LEVEL ADJUSTMENT
RV7; TRACKING ERROR OFFSET ADJUSTMENT
RV9; FEED BACK LOOP BALANCE ADJUSTMENT
IC3 TL082CP
BUFF
IC8 TL601CP
ICN17 TL084CN
TP13
RV10; MANUAL TRACKING ADJUSTMENT
IC7 TL082CP
ICL5 TL607CP
ANA REF 34 FROM 1/4
DT DRIVE 38 TO 1/4
DT OFF FILTER 86 FROM 1/4
DT DRIVE (X) B16a DD, 28
DT DRIVE (G) B16b DD, 28
WOBBLING 54 FROM 1/4
REF SCH/RIN 87 TO 1/4
ICM1 TL084CN
RINGING SEPARATOR (720Hz NOTCH FILTER & 1350Hz HPF)
ICN1 TL601CP
RINGING PEAK DET
ICM2 TL084CN
TP38
ICN2 TL601CP
RINGING/REF SCH MIX
ICG13 CX-7903
IC8 TL607CP
IC7 TL082CP
ICL5 TL601CP
FOR (-13)
ICG16 SN74LS123N
ICH21 SN74LS00N
120μsec
SV NO REF 33 TO 1/4
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
TP17
REF SYNC
Q3 2SK523-K2
Q4 2SC2458-Y
ICG7 SN74LS221N
ICG12 SN74LS112N
ICK15 μPD71054C
ICG11 SN74LS112N
ICE10 SN74LS02N
ICJ18 μPD71054C
ICH12 SN74LS10N
ICH8 SN74LS04N
ICH7 SN74LS112N
ICH8 SN74LS04N
REF SYNC 86b SV, A11
2 FRAME 62 TO 1/4
EXT SYNC
INT HD
HCOMIN
EXT SC
INT SC
EXT LALT
MODE1
MODE2
EXT/INT
VR
HR
HCOM OUT
SC COM
LALTR
TGC
SV COLOR/BW
SVCTC 0-0
61.1 NE DET
DTCTC 5-2
DT CTC 5-1
BURST DET
3 FIELD RST 49 FROM 1/4
BURST DET 63 TO 1/4
ICH9 SN74LS00N
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
TP28
TP19
CF1 4.55MHz
ICK15 μPD71054C
ICH6 74F112PC
Q16 DTC114ES
FRAME PULSE(X) A27b VS, 320
FRAME PULSE(G) A27c VS, 320
ICK6 SN74LS153N
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
ICE7 SN74LS163AN
TP18
VCO X2
17.734475MHz
ICJ6 SN74LS221N
ICH9 SN74LS00N
ICE13 SN7406N
ICH11 SN75107AN
REF FRAME 41 TO 1/4
RD-7 (2/4)
BOARD NO, 1-621-748-13,14
BVH-3000PS; #10501-
BVH-3100PS; #10701-
ICK7 SN74LS153N
ICE11 TL082CP
ICE9 SN74LS123N
ICE10 SN74LS02N
ICE13 SN7406N
DL3: 30nS
RV12; BURST PHASE ADJUSTMENT
ICE8 SN74LS00N
ICH6 74F112PC
Q5 2SC2901
Q6 2SC2901
Q7 2SA1048-GR
ICH3 TL082CP
ICH1 TL082CP
TP20
TP21
REF SCH
ICH4 TC4053BP
RV14; SC-H OFFSET ADJUSTMENT
RV13; SC-H GAIN ADJUSTMENT
TBC H 66 FROM 4/4
TBC FRAME 67 FROM 3/4
SEL CF B14c SV, B14c
SEL FRAME B14b SV, B14b
REF H B12b SV, SY, F
ICK8 SN74LS157N
SV/TBC
EXT CFP 31 TO 1/4

RD-7 BOARD (3/4)

TBC Reference Signal Generator (Part 1)


IC B20 SN74LS74AN LATCH
IC B10 SN74LS399N RD Fsc GEN (FOR PAL BURST) (90° SHIFT LINE-BY-LINE)
IC D3 SN74LS04N
IC C1 HD10124
IC A2 SN74LS123N
IC A1 SN7406N
IC B3 TL082CP
IC B4 SN74LS00N 20nS PULSE GEN
IC B8 74F00PC
IC B6 TL082CP
Q10 2SA1048
Q11 2SC2901
IC B9 NE527N
VELOCITY ERROR MODULATOR
Q12 2SC2901
ICA2 SN74LS123N
ICB3 TL082CP
SC DELAY ; REF CK GEN (BURST/CHROMA PHASE CONT)
IC B21 HD14053BP BURST/CHROMA PHASE CONTROL SELECT (REMOTE/LOCAL)
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
FROM 4/4 68 QB
FROM 4/4 69 ~LALT
FROM 4/4 70 4FSC IN
PA, A1b B2c HUE CONT
FROM 1/4 7 B-C PHASE L/R
FROM 1/4 10 RD TEST 1
FROM 4/4 71 ~P/S
FROM 4/4 72 P/S
PAL/SECAM
RV23; B-C PHASE
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
TP25
VELO ERROR
1/4 RD CK
IC F20 SN74LS221N
IC F21 H11-0201-5 V SAWTOOTH WAVE GENERATOR
IC E19 TL082CP
IC E21 TL082CP DC AMP
IC E19 TL082CP Q14 2SA1048-GR
IC C21 SN74LS04N Q13 2SC2901 H SAWTOOTH WAVE GEN
IC D20 μPC319C PAL H GENERATOR (PAL OFFSET REJECT)
IC D19 SN74LS74AN
IC C19 SN74LS00N SC-H PHASE COMPARATOR
FROM 4/4 73 ~VD OUT
FROM 4/4 74 ~SC-OFFSET
FROM 4/4 76 LALT
FROM 4/4 77 LALT/2
FROM 4/4 78 ~O/E OUT
PR, B9c B9c RD FLD
IC E14 SN74LS86AN
IC B20 SN74LS74AN
FOR-13
FROM 4/4 75 H
PR, B9c RD FLD
FROM 2/4 88 REF 2'
RV28; H MOD ADJ
RV27; REF CF ADJ
SC PHASE CONT
TP33
PAL H
IC F16 SN74LS74AN
IC E15 74F193PC ÷41 RD CK → RCK/4
IC F19 SN74LS04N
IC F18 SN74LS74AN
RCK/4
FROM 1/4 48 ~CF RESET
FROM 4/4 77 LALT/2
FROM 4/4 78 ~O/E OUT
IC H20 SN74LS04N
IC B19 SN74LS221N
IC C14 SN74LS00N VELO ERROR RESET PULSE GENERATOR
IC C15 SN74LS02N
FROM 4/4 79 ~HD OUT
IC D21 SN74LS02N
FROM 1/4 56 READ ZERO JUMP
IC D21 SN74LS02N PAL H/HD SELECT
IC J21 μPD71054C
IC C20 SN74LS00N
IC C21 SN74LS00N CTC (H DELAY)
IC D16
IC D15 74F20PC
IC B16 H11-0201-5 VELO ERROR RESET
FROM 1/4 11 VELO RESET
IC G14 SN74LS04N
RV21; VELO OFFSET ADJ
RV22; VELO GAIN
TP32
TP26
VELOCITY ERROR
PR, A14c A14b VELO 1 (X)
PR, A14a A14ac VELO 1 (G)
PR, CK, A23a A23a TBC VD
TO 4/4 80 HD
FROM 1/4 13 DP VIDEO EN
PR, A15b A15b DP VIDEO (X)
PR, A15ac A15ac DP VIDEO (G)
DP VIDEO
IC B19 SN74LS221N SAMPLING PULSE GEN
IC B17 TL082CP
ICB16 H11-0201-5
ICB14 TL082CP
IC B12 TL082CP VELOCITY ERROR INTERPOLATOR
IC B12 TL082CP
IC B16 H11-0201-5 DP COMPENSATION INHIBIT
FROM 1/4 60 VPF1
PR, A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
IC D3 SN74LS04N
IC E14 SN74LS86AN
IC C21 SN74LS00N
FROM 4/4 81 VIDN
FROM 4/4 82 VD OUT
SECAM V ID
~O/E OUT
FROM 4/4 83 SYNC OUT
IC C2 SN74LS
IC G14 SN74LS
IC J1

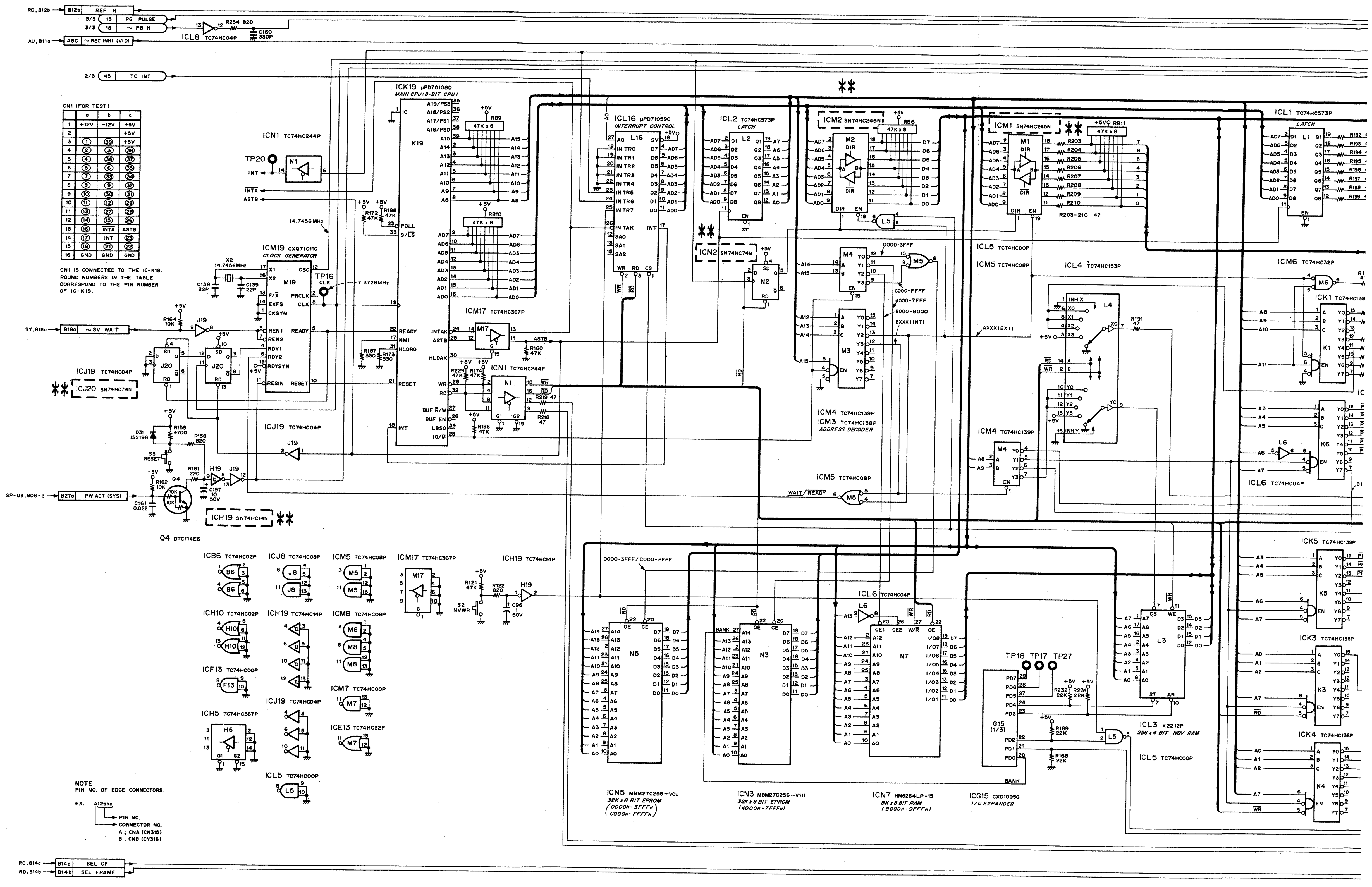

IC B10 SN74LS399N RD Fsc GEN(FOR PAL BURST) (90° SHIFT LINE-BY-LINE)
IC D3 SN74LS04N
IC C1 HD10124
IC A2 SN74LS123N
IC A1 SN7406N Fsc DELAY
IC B3 TL082CP
IC B4 SN74LS00N 20nS PULSE GEN
IC B8 74F00PC
IC B6 TL082CP
Q10 2SA1048
Q11 2SC2901 VELOCITY ERROR MODULATOR
IC B9 NE527N
IC B8 74F00PC
Q12 2SC2901
FL1 17.7MHz BPF x4(1/4 RD CK → RD CK)
IC C5 NE527N
IC B4 SN74LS00N RD CK SELECTOR PAL: 4Fsc, SECAM: 1135FH
IC C4 SN74LS74AN REF SC GEN(÷4)
IC C1 HD10124
ICA2 SN74LS123N
ICB3 TL082CP
SC DELAY: REF CK GEN (BURST/CHROMA PHASE CONT)
IC B21 HD14053BP BURST/CHROMA PHASE CONTROL SELECT (REMOTE/LOCAL)
ICA1 SN7406N
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
RV23; B-C PHASE
VELO ERROR
1/4 RD CK
TP25
TP27
RD FSC (+) A18a PR, A18a
RD FSC (-) A18b PR, A18b
REF CK (+) A19a PR, A19a
REF CK (-) A19b PR, A19b
REF SC B5a CK, B4a
RD CK (-) A25b PR, CK, A25b
RD CK (+) A25a PR, CK, A25a
RD CK P: 4Fsc S: 1135FH
IC F20 SN74LS221N IC F21 H11-0201-5 IC E19 TL082CP V SAWTOOTH WAVE GENERATOR
IC E21 TL082CP DC AMP
IC E19 TL082CP Q14 2SA1048-GR
IC C21 SN74LS04N Q13 2SC2901 H SAWTOOTH WAVE GEN
IC D20 μPC319C PAL H GENERATOR (PAL OFFSET REJECT)
IC D19 SN74LS74AN IC C19 SN74LS00N SC-H PHASE COMPARATOR
IC C17 BX-381 T/V CONV (TBC REF SCH DET)
IC F21 H11-0201-5
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12 abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
SC PHASE CONT
RV28; H MOD ADJ
RV27; REF CF ADJ
IC B20 SN74LS74AN
IC E14 SN74LS86AN
IC F16 SN74LS74AN ÷4(RD CK → RCK/4)
IC E15 74F193PC
IC F19 SN74LS04N
IC F18 SN74LS74AN
TP33
TP36
PAL H
TBC REF SCH 36 TO 1/4
FROM 1/4 48 ~CF RESET
IC F19 SN74LS04N
IC C15 SN74LS02N
IC F21 H11-0201-5
IC D16 SN74LS163AN
IC D14 SN74LS163AN READ ZERO GEN
IC D21 SN74LS02N
FROM 1/4 56 READ ZERO JUMP
IC D21 SN74LS02N PAL H/HD SELECT
IC J21 μPD71054C
IC C20 SN74LS00N
IC C21 SN74LS00N CTC(H DELAY)
IC D15 74F20PC
IC J19 μPD71054C CTC Y ADD GATE PULSE GEN
IC E14 SN74LS86AN
IC B16 H11-0201-5 VELO ERROR RESET
ICD21 SN74LS02N
FROM 1/4 60 VPF1
PR, A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
READ ZERO 1 A24a PR, CK, A24a
Y ADD GATE B10b PR, B10b
UMSC A21a PR, A21a
REF VN B10c PR, CK, B10c
ICD3 SN74LS04N
ICE14 SN74LS86AN
ICC21 SN74LS00N
TP32
TP26
VELOCITY ERROR
FROM 4/4 81 VIDN
FROM 4/4 82 VD OUT
SECAM V ID
IC J18 μPD71054C IC C14 SN74LS00N IC C21 SN74LS04N CTC SECAM UMSC GEN
IC J19 μPD71054C CTC VD DELAY (REF VN GEN)
IC B17 TL082CP
ICB16 H11-0201-5 ICB14 TL082CP IC B12 TL082CP VELOCITY ERROR INTERPOLATOR
IC B12 TL082CP
DP VIDEO
TBC FRAME 67 TO 2/4
ICC2 SN74LS74AN
ICG14 SN74LS04N
~O/E OUT
FROM 4/4 83 SYNC OUT

RD-7 BOARD **(3/4)**

BOARD NO. 1-621-748-13,14
BVH-3000PS; # 10501-
BVH-3100PS, # 10701-

SV-90 BOARD (1/3)

Servo, Logic Control


RD, B12b
B12b REF H
3/3 13 PG PULSE
3/3 15 ~ PB H
ICL8 TC74HC04P
R234 820
C160 330P
AU, B11a
A6C ~ REC INHI (VID)
2/3 45 TC INT
ICK19 μPD70108D MAIN CPU(16-BIT CPU)
K19
ICN1 TC74HC244P
TP20
INT
INTA
ASTB
14.7456MHz
ICM19 CXQ71011C CLOCK GENERATOR
M19
X2 14.7456MHz
C138 22P
C139 22P
TP16 CLK
7.3728MHz
ICL16 μPD71059C INTERRUPT CONTROL
L16
ICL2 TC74HC573P LATCH
L2
ICM2 SN74HC245N
M2
ICM1 SN74HC245N
M1
ICL1 TC74HC573P LATCH
L1
ICN2 SN74HC74N
N2
ICM4 TC74HC139P
ICM3 TC74HC138P ADDRESS DECODER
M4
M3
ICL5 TC74HC00P
ICM5 TC74HC08P
ICL4 TC74HC153P
L4
ICM6 TC74HC32P
M6
ICK1 TC74HC138P
K1
K6
ICL6 TC74HC04P
L6
SY, B18a
B18a ~ SV WAIT
ICJ19 TC74HC04P
J19
J20
ICJ20 SN74HC74N
ICM17 TC74HC367P
M17
N1
D31 1SS198
S3 RESET
Q4 DTC114ES
SP-03, 906-2
B27a PW ACT (SYS)
ICH19 SN74HC14N
ICM5 TC74HC08P
WAIT/READY
0000-3FFF
C000-FFFF
4000-7FFF
8000-9000
BXXX (INT)
AXXX (EXT)
0000-3FFF/C000-FFFF
ICB6 TC74HC02P
ICJ8 TC74HC08P
ICM5 TC74HC08P
ICM17 TC74HC367P
ICH19 TC74HC14P
ICH10 TC74HC02P
ICH19 TC74HC14P
ICM8 TC74HC08P
ICF13 TC74HC00P
ICM7 TC74HC00P
ICJ19 TC74HC04P
ICE13 TC74HC32P
ICH5 TC74HC367P
H5
ICL5 TC74HC00P
S2 NVWR
N5
N3
N7
G15 (1/3)
L3
TP18 TP17 TP27
BANK
ICN5 MBM27C256-V0U 32K x 8 BIT EPROM (0000H-3FFFH / C000H-FFFFH)
ICN3 MBM27C256-V1U 32K x 8 BIT EPROM (4000H-7FFFH)
ICN7 HM6264LP-15 8K x 8 BIT RAM (8000H-9FFFH)
ICG15 CXD1095Q I/O EXPANDER
ICL3 X2212P 256 x 4 BIT NOV RAM
ICL5 TC74HC00P
ICK5 TC74HC138P
K5
ICK3 TC74HC138P
K3
ICK4 TC74HC138P
K4
RD, B14c
RD, B14b
B14c SEL CF
B14b SEL FRAME

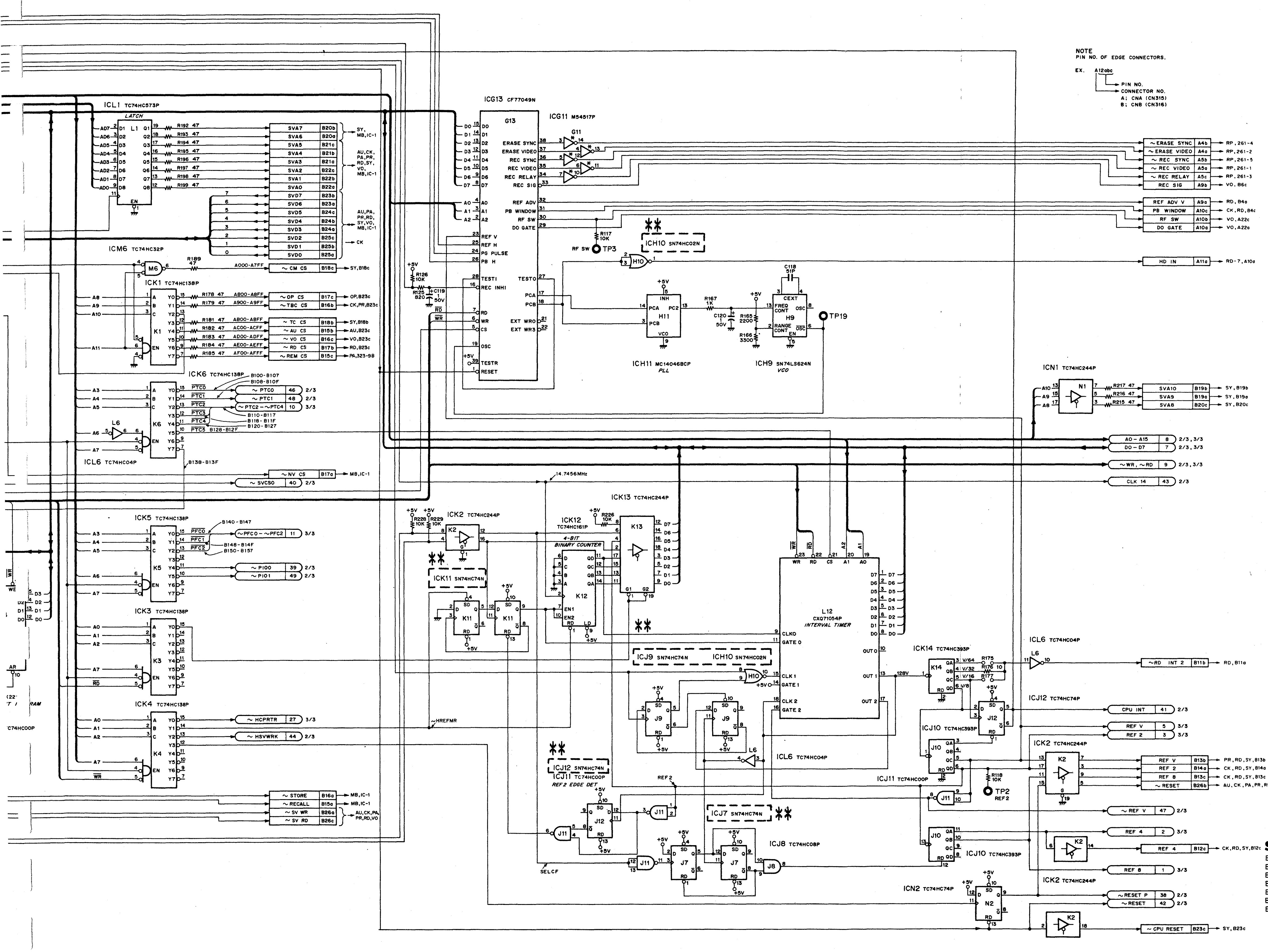
CN1 (FOR TEST)

	a	b	c
1	+12V	−12V	+5V
2			+5V
3	①	㊴	+5V
4	②	③	㊳
5	④	㊱	㊲
6	⑤	⑥	㉟
7	⑦	㉝	㉞
8	⑧	⑨	㉜
9	⑩	㉚	㉛
10	⑪	⑫	㉙
11	⑬	㉗	㉘
12	⑭	⑮	㉖
13	⑯	$\overline{\text{INTA}}$	ASTB
14	⑰	INT	㉓
15	⑲	㉑	㉒
16	GND	GND	GND

CN1 IS CONNECTED TO THE IC-K19. ROUND NUMBERS IN THE TABLE CORRESPOND TO THE PIN NUMBER OF IC-K19.

NOTE
PIN NO. OF EDGE CONNECTORS.

EX. A12abc
→ PIN NO.
→ CONNECTOR NO.
A ; CNA (CN315)
B ; CNB (CN316)


ICL1 TC74HC573P
LATCH
ICM6 TC74HC32P
ICK1 TC74HC138P
ICK6 TC74HC138P
ICL6 TC74HC04P
ICK5 TC74HC138P
ICK3 TC74HC138P
ICK4 TC74HC138P
ICG13 CF77049N
ICG11 M54517P
ICH10 SN74HC02N
ICH11 MC14046BCP
PLL
ICH9 SN74LS624N
VCO
TP3
TP19
ICN1 TC74HC244P
ICK2 TC74HC244P
ICK11 SN74HC74N
ICK12 TC74HC161P
4-BIT BINARY COUNTER
ICK13 TC74HC244P
ICJ9 SN74HC74N
L12 CXQ71054P
INTERVAL TIMER
ICK14 TC74HC393P
ICJ12 TC74HC74P
ICJ10 TC74HC393P
ICJ11 TC74HC00P
ICJ12 SN74HC74N
ICJ11 TC74HC00P
REF2 EDGE DET
ICJ7 SN74HC74N
ICJ8 TC74HC08P
ICN2 TC74HC74P
TP2
REF2
14.7456MHz
~ERASE SYNC A4b RP,261-4
~ERASE VIDEO A4a RP,261-2
~REC SYNC A5b RP,261-5
~REC VIDEO A5a RP,261-1
~REC RELAY A5c RP,261-3
REC SIG A9b VO,B6c
REF ADV V A9a RD,B4a
PB WINDOW A10c CK,RD,B4c
RF SW A10b VO,A22c
DO GATE A10a VO,A22a
HD IN A11a RD-7,A10a
SVA10 B19b SY,B19b
SVA9 B19c SY,B19a
SVA8 B20c SY,B20c
A0-A15 8 2/3,3/3
D0-D7 7 2/3,3/3
~WR,~RD 9 2/3,3/3
CLK 14 43 2/3
~RD INT 2 B11b RD,B11a
CPU INT 41 2/3
REF V 5 3/3
REF 2 3 3/3
REF V B13b PR,RD,SY,B13b
REF 2 B14a CK,RD,SY,B14a
REF 8 B13c CK,RD,SY,B13c
~RESET B26b AU,CK,PA,PR,RD,SY,VO,B26b
~REF V 47 2/3
REF 4 2 3/3
REF 4 B12c CK,RD,SY,B12c
REF 8 1 3/3
~RESET P 38 2/3
~RESET 42 2/3
~CPU RESET B23c SY,B23c
~STORE B16a MB,IC-1
~RECALL B15a MB,IC-1
~SV WR B26a AU,CK,PA,PR,RD,VO
~SV RD B26c
~NV CS B17a MB,IC-1
~SVCS0 40 2/3
~HCPRTR 27 3/3
~HSVWRK 44 2/3
~P100 39 2/3
~P101 49 2/3
~PFC0-~PFC2 11 3/3
~PTC0 46 2/3
~PTC1 48 2/3
~PTC2-~PTC4 10 3/3
~CM CS B18c SY,B18c
~OP CS B17c OP,B23c
~TBC CS B16b CK,PR,B23c
~TC CS B18b SY,B18b
~AU CS B15b AU,B23c
~VO CS B16c VO,B23c
~RD CS B17b RD,B23c
~REM CS B15c PA,323-98

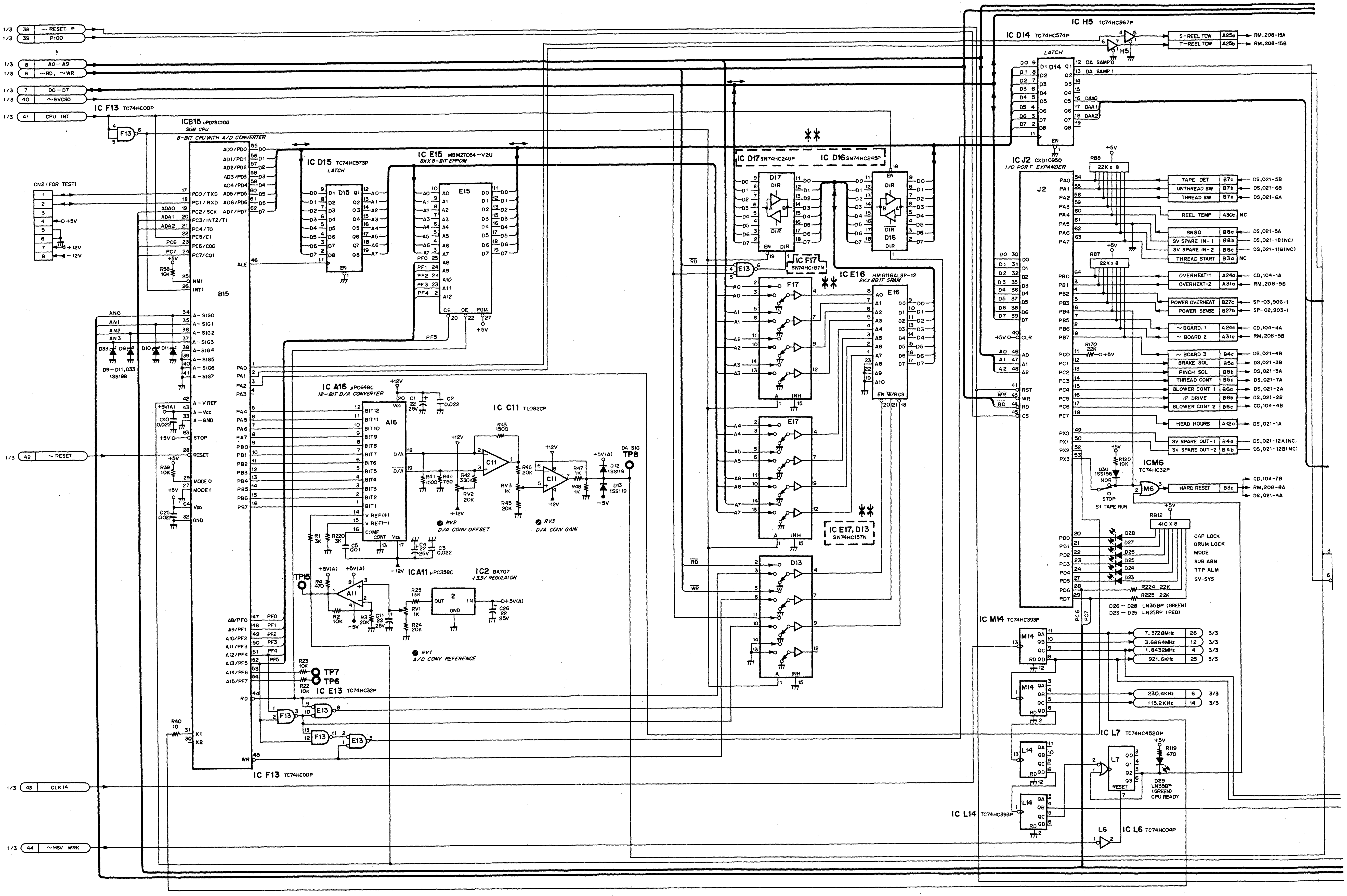
NOTE
PIN NO. OF EDGE CONNECTORS.

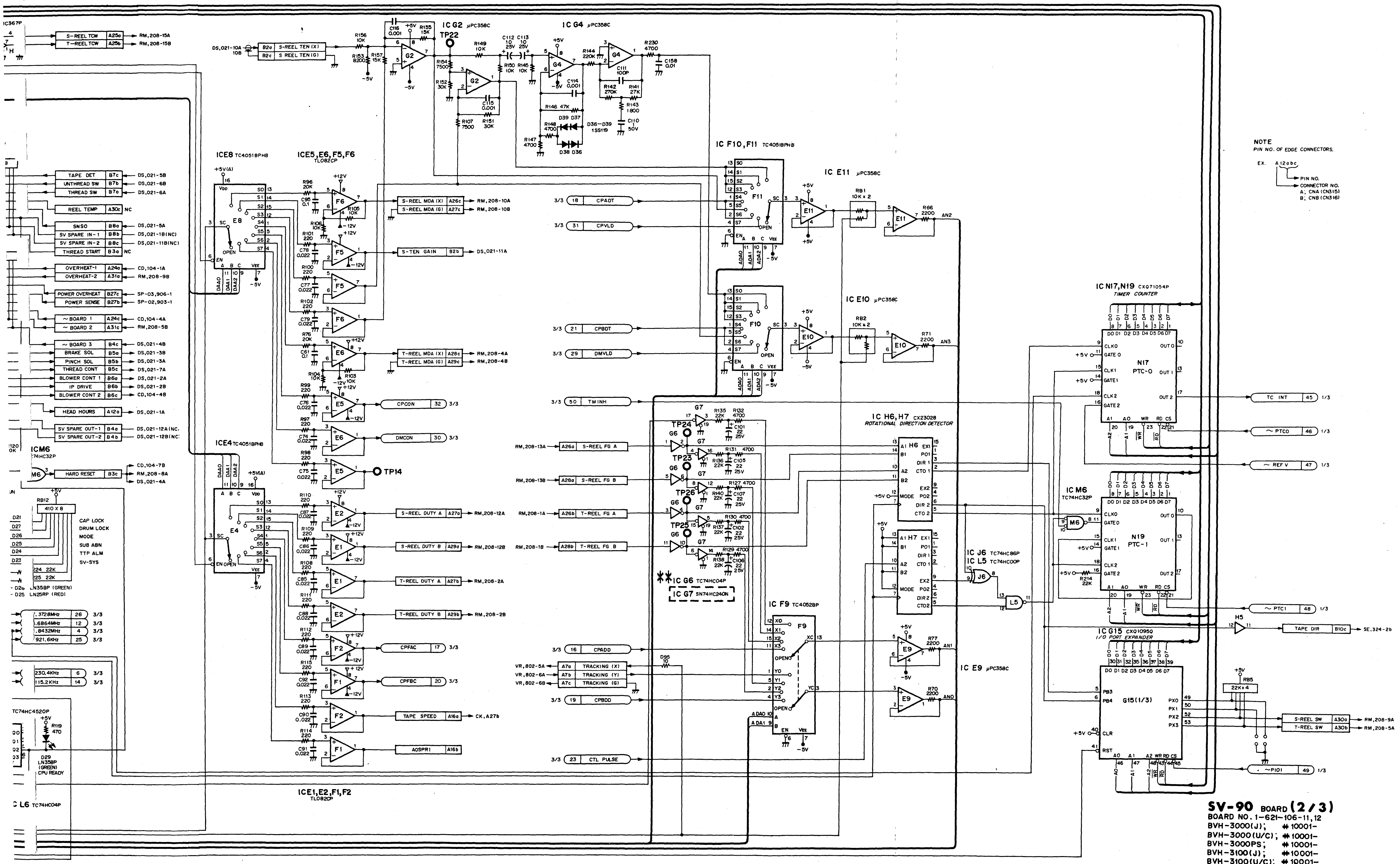
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN315)
B; CNB (CN316)

SV-90(1/3) BOARD
BOARD NO. 1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000 PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100 PS; #10001-

SV-90 BOARD (2/3)

Servo, Logic Control


~RESET P
P100
A0–A9
~RD, ~WR
D0–D7
~SVCS0
CPU INT
IC F13 TC74HC00P
ICB15 μPD78C10G
SUB CPU
8-BIT CPU WITH A/D CONVERTER
CN2 (FOR TEST)
IC D15 TC74HC573P
LATCH
IC E15 MBM27C64-V2U
8KX8-BIT EPROM
IC A16 μPC648C
12-BIT D/A CONVERTER
IC C11 TL082CP
ICA11 μPC358C
IC2 BA707
+3.3V REGULATOR
RV1 A/D CONV REFERENCE
RV2 D/A CONV OFFSET
RV3 D/A CONV GAIN
TP15
TP7
TP6
TP8
DA SIG
IC E13 TC74HC32P
IC F13 TC74HC00P
~RESET
CLK14
~HSV WRK
D9–D11, D33 1SS198
IC D17 SN74HC245P
IC D16 SN74HC245P
IC F17 SN74HC157N
IC E16 HM6116ALSP-12
2KX8BIT SRAM
IC E17, D13 SN74HC157N
IC H5 TC74HC367P
IC D14 TC74HC574P
LATCH
IC J2 CXD1095Q
I/O PORT EXPANDER
S-REEL TCW A25a RM,208-15A
T-REEL TCW A25b RM,208-15B
DA SAMP0
DA SAMP1
DAA0
DAA1
DAA2
TAPE DET B7c DS,021-5B
UNTHREAD SW B7b DS,021-6B
THREAD SW B7a DS,021-6A
REEL TEMP A30c NC
SNS0 B8a DS,021-5A
SV SPARE IN-1 B8b DS,021-11B(NC)
SV SPARE IN-2 B8c DS,021-11B(NC)
THREAD START B3a NC
OVERHEAT-1 A24b CD,104-1A
OVERHEAT-2 A31a RM,208-9B
POWER OVERHEAT B27c SP-03,906-1
POWER SENSE B27b SP-02,903-1
~BOARD 1 A24c CD,104-4A
~BOARD 2 A31c RM,208-5B
~BOARD 3 B4c DS,021-4B
BRAKE SOL B5a DS,021-3B
PINCH SOL B5b DS,021-3A
THREAD CONT B5c DS,021-7A
BLOWER CONT 1 B6a DS,021-2A
IP DRIVE B6b DS,021-2B
BLOWER CONT 2 B6c CD,104-4B
HEAD HOURS A12a DS,021-1A
SV SPARE OUT-1 B4a DS,021-12A(NC)
SV SPARE OUT-2 B4b DS,021-12B(NC)
ICM6 TC74HC32P
HARD RESET B3c CD,104-7B RM,208-8A DS,021-4A
S1 TAPE RUN
STOP
NOR
CAP LOCK
DRUM LOCK
MODE
SUB ABN
TTP ALM
SV-SYS
D26 – D28 LN35BP (GREEN)
D23 – D25 LN25RP (RED)
IC M14 TC74HC393P
7.3728MHz 26 3/3
3.6864MHz 12 3/3
1.8432MHz 4 3/3
921.6kHz 25 3/3
230.4kHz 6 3/3
115.2kHz 14 3/3
IC L7 TC74HC4520P
D29 LN35BP (GREEN) CPU READY
IC L14 TC74HC393P
IC L6 TC74HC04P

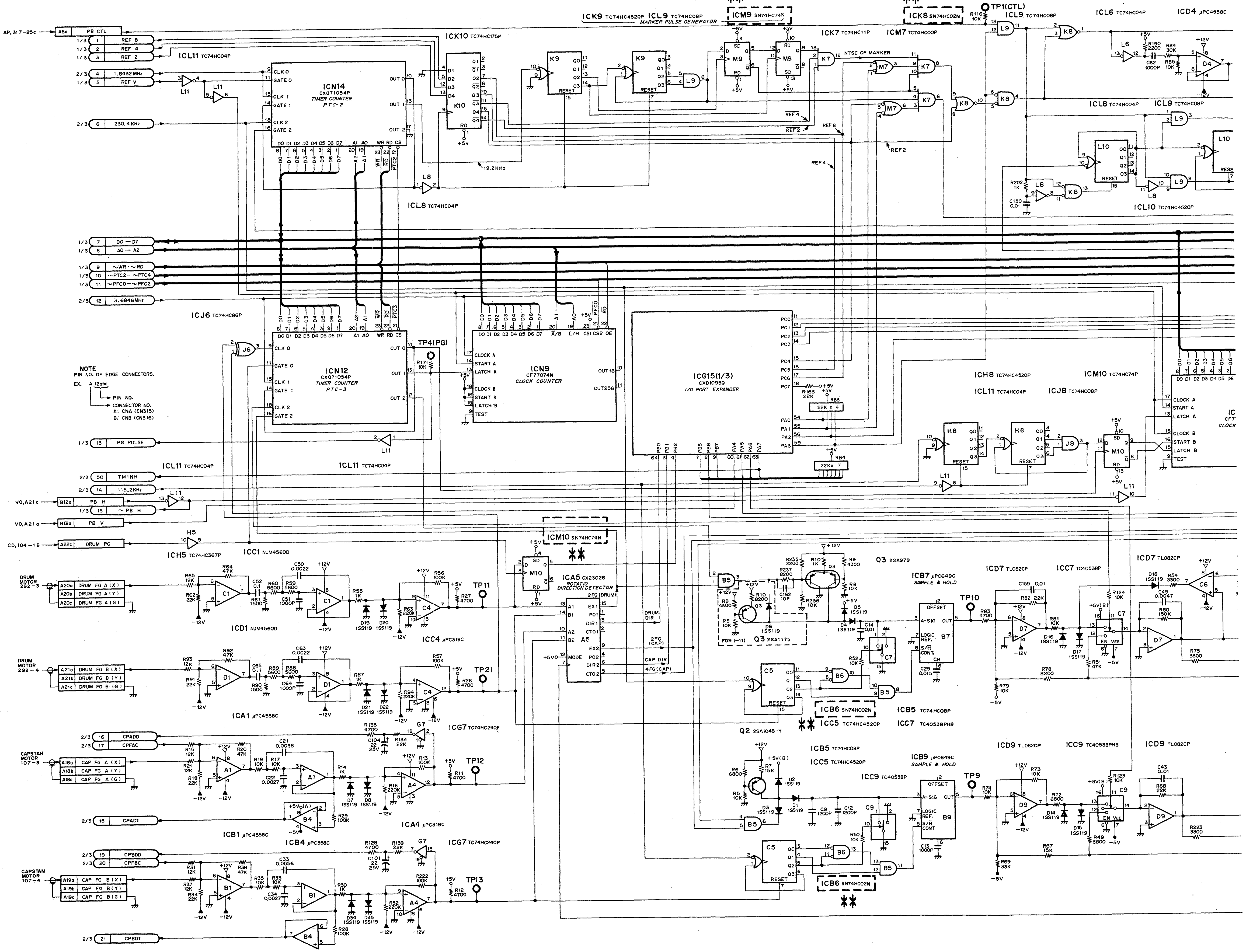

IC G2 μPC358C
TP22
IC G4 μPC358C
S-REEL TQW A25a RM,208-15A
T-REEL TQW A25b RM,208-15B
S-REEL TEN (X) B2a
S REEL TEN (G) B2c
DS,021-10A
ICE8 TC4051BPHB
ICE5,E6,F5,F6 TL082CP
IC F10,F11 TC4051BPHB
IC E11 μPC358C
IC E10 μPC358C
TAPE DET B7c DS,021-5B
UNTHREAD SW B7b DS,021-6B
THREAD SW B7a DS,021-6A
REEL TEMP A30c NC
SNSO B8a DS,021-5A
SV SPARE IN-1 B8b DS,021-11B(NC)
SV SPARE IN-2 B8c DS,021-11B(NC)
THREAD START B3a NC
OVERHEAT-1 A24a CD,104-1A
OVERHEAT-2 A31a RM,208-9B
POWER OVERHEAT B27c SP-03,906-1
POWER SENSE B27b SP-02,903-1
~BOARD 1 A24c CD,104-4A
~BOARD 2 A31c RM,208-5B
~BOARD 3 B4c DS,021-4B
BRAKE SOL B5a DS,021-3B
PINCH SOL B5b DS,021-3A
THREAD CONT B5c DS,021-7A
BLOWER CONT 1 B6a DS,021-2A
IP DRIVE B6b DS,021-2B
BLOWER CONT 2 B6c CD,104-4B
HEAD HOURS A12a DS,021-1A
SV SPARE OUT-1 B4a DS,021-12A(NC)
SV SPARE OUT-2 B4b DS,021-12B(NC)
ICM6 74HC32P
HARD RESET B3c CD,104-7B RM,208-8A DS,021-4A
S-REEL MDA (X) A26c RM,208-10A
S-REEL MDA (G) A27c RM,208-10B
S-TEN GAIN B2b DS,021-11A
T-REEL MDA (X) A28c RM,208-4A
T-REEL MDA (G) A29c RM,208-4B
CPCON 32 3/3
DMCON 30 3/3
TP14
ICE4 TC4051BPHB
S-REEL DUTY A A27a RM,208-12A
S-REEL DUTY B A29a RM,208-12B
T-REEL DUTY A A27b RM,208-2A
T-REEL DUTY B A29b RM,208-2B
CPFAC 17 3/3
CPFBC 20 3/3
TAPE SPEED A16a CK,A27b
AOSPR1 A16b
ICE1,E2,F1,F2 TL082CP
3/3 18 CPADT
3/3 31 CPVLD
3/3 21 CPBDT
3/3 29 DMVLD
3/3 50 TMINH
AN2
AN3
IC H6,H7 CX23028 ROTATIONAL DIRECTION DETECTOR
TP24 TP23 TP26 TP25
RM,208-13A A26a S-REEL FG A
RM,208-13B A28a S-REEL FG B
RM,208-1A A26b T-REEL FG A
RM,208-1B A28b T-REEL FG B
IC G6 TC74HC04P
IC G7 SN74HC240N
IC J6 TC74HC86P
IC L5 TC74HC00P
IC F9 TC4052BP
3/3 16 CPADD
VR,802-5A A7a TRACKING (X)
VR,802-6A A7b TRACKING (Y)
VR,802-6B A7c TRACKING (G)
3/3 19 CPBDD
3/3 23 CTL PULSE
AN1
AN0
IC E9 μPC358C
IC N17,N19 CX071054P TIMER COUNTER
N17 PTC-0
N19 PTC-1
IC M6 TC74HC32P
TC INT 45 1/3
~PTC0 46 1/3
~REF V 47 1/3
~PTC1 48 1/3
H5
TAPE DIR B10c SE,324-2b
IC G15 CX010950 I/O PORT EXPANDER
G15 (1/3)
S-REEL SW A30a RM,208-9A
T-REEL SW A30b RM,208-5A
~PIO1 49 1/3
RB12 410 X 8
CAP LOCK
DRUM LOCK
MODE
SUB ABN
TTP ALM
SV-SYS
LN35BP (GREEN)
LN25RP (RED)
7.3728MHz 26 3/3
5.6864MHz 12 3/3
1.8432MHz 4 3/3
921.6KHz 25 3/3
230.4KHz 6 3/3
115.2KHz 14 3/3
TC74HC4520P
D29 LN35BP (GREEN) CPU READY
L6 TC74HC04P

NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN315)
B; CNB (CN316)

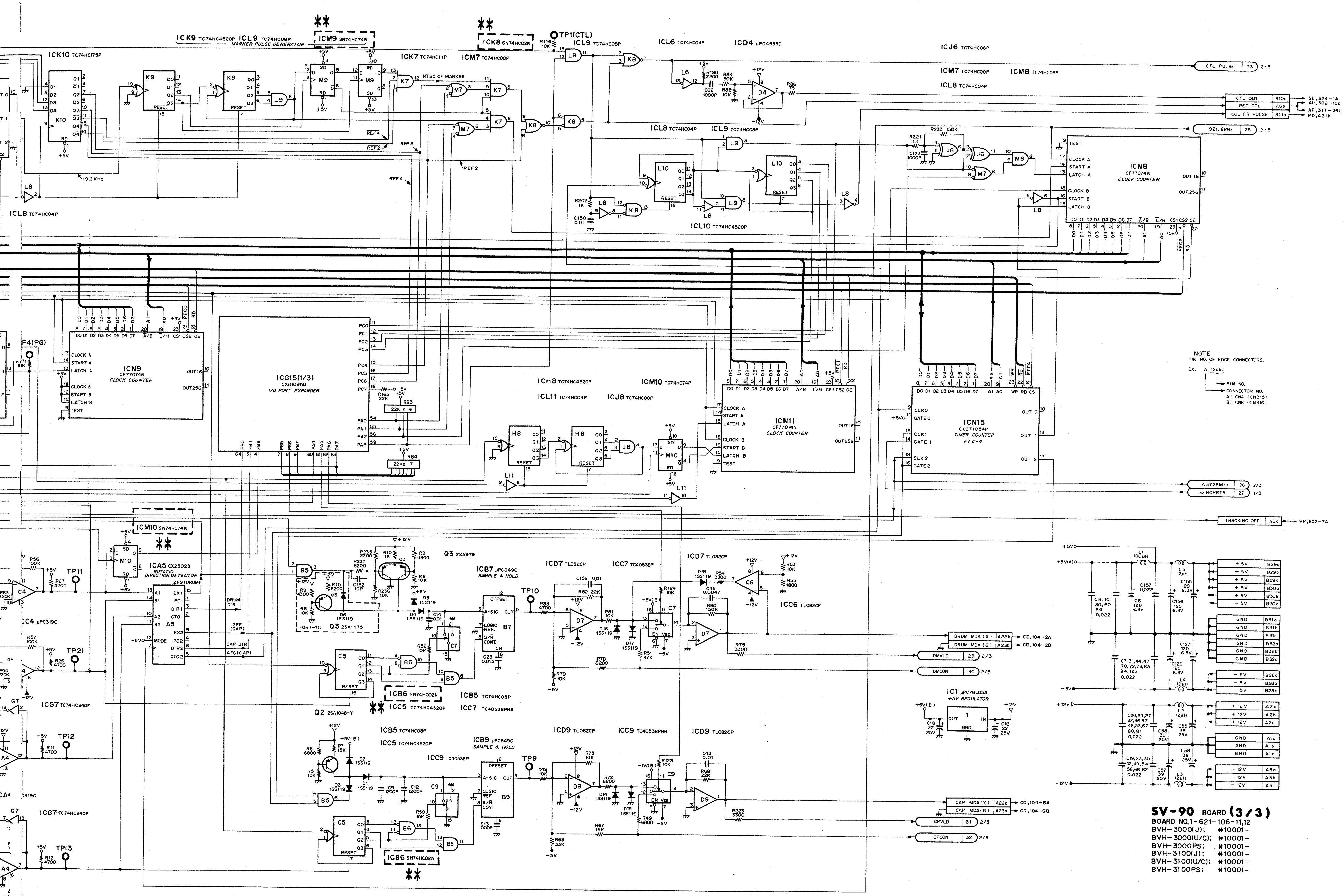
SV-90 BOARD (2/3)
BOARD NO. 1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

SV-90 BOARD (3/3)

Servo, Logic Control


ICN14 CXQ71054P TIMER COUNTER PTC-2
ICN12 CXQ71054P TIMER COUNTER PTC-3
ICN9 CF77074N CLOCK COUNTER
ICG15(1/3) CXD1095Q I/O PORT EXPANDER
ICA5 CX23028 ROTATIO DIRECTION DETECTOR
ICK10 TC74HC175P
ICK9 TC74HC4520P
ICL9 TC74HC08P
ICM9 SN74HC74N
ICK8 SN74HC02N
ICK7 TC74HC11P
ICM7 TC74HC00P
ICL6 TC74HC04P
ICD4 μPC4558C
ICL8 TC74HC04P
ICL10 TC74HC4520P
ICL11 TC74HC04P
ICJ6 TC74HC86P
ICH8 TC74HC4520P
ICJ8 TC74HC08P
ICM10 TC74HC74P
ICM10 SN74HC74N
ICH5 TC74HC367P
ICC1 NJM4560D
ICD1 NJM4560D
ICC4 μPC319C
ICA1 μPC4558C
ICG7 TC74HC240P
ICB1 μPC4558C
ICB4 μPC358C
ICA4 μPC319C
ICB7 μPC649C SAMPLE & HOLD
ICD7 TL082CP
ICC7 TC4053BP
ICB6 SN74HC02N
ICB5 TC74HC08P
ICC5 TC74HC4520P
ICC7 TC4053BPHB
ICB9 μPC649C SAMPLE & HOLD
ICC9 TC4053BP
ICD9 TL082CP
ICC9 TC4053BPHB
MARKER PULSE GENERATOR
NTSC CF MARKER
Q3 2SA979
Q3 2SA1175
Q2 2SA1048-Y
TP1(CTL)
TP4(PG)
TP9
TP10
TP11
TP12
TP13
TP21
AP,317-25c
PB CTL
REF 8
REF 4
REF 2
1.8432 MHz
REF V
230.4 KHz
19.2 KHz
D0 — D7
A0 — A2
~WR·~RD
~PTC2—~PTC4
~PFC0—~PFC2
3.6846 MHz
PG PULSE
TM1NH
115.2 KHz
PB H
~PB H
PB V
DRUM PG
DRUM MOTOR 292-3
DRUM FG A (X)
DRUM FG A (Y)
DRUM FG A (G)
DRUM MOTOR 292-4
DRUM FG B (X)
DRUM FG B (Y)
DRUM FG B (G)
CPADD
CPFAC
CAPSTAN MOTOR 107-3
CAP FG A (X)
CAP FG A (Y)
CAP FG A (G)
CPADT
CPBDD
CPFBC
CAPSTAN MOTOR 107-4
CAP FG B (X)
CAP FG B (Y)
CAP FG B (G)
CPBDT
DRUM DIR
2FG (CAP)
CAP DIR
4FG (CAP)
FOR (-11)
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A: CNA (CN315)
B: CNB (CN316)

1R9


ICK9 TC74HC4520P
ICL9 TC74HC08P
MARKER PULSE GENERATOR
ICM9 SN74HC74N
ICK8 SN74HC02N
TP1(CTL)
ICK10 TC74HC175P
ICK7 TC74HC11P
ICM7 TC74HC00P
NTSC CF MARKER
ICL6 TC74HC04P
ICD4 μPC4558C
ICJ6 TC74HC86P
ICM7 TC74HC00P
ICM8 TC74HC08P
ICL8 TC74HC04P
CTL PULSE 23 2/3
CTL OUT B10a SE,324-1A
REC CTL A6b AU,302-10c
COL FR PULSE B11a AP,317-24c RD,A21b
921.6KHz 25 2/3
ICL8 TC74HC04P
ICL9 TC74HC08P
ICL10 TC74HC4520P
ICN8 CF77074N CLOCK COUNTER
19.2KHz
REF 2
REF 4
REF 8
ICL8 TC74HC04P
P4(PG)
ICN9 CF77074N CLOCK COUNTER
ICG15(1/3) CXD1095Q I/O PORT EXPANDER
ICH8 TC74HC4520P
ICL11 TC74HC04P
ICJ8 TC74HC08P
ICM10 TC74HC74P
ICN11 CF77074N CLOCK COUNTER
ICN15 CXQ71054P TIMER COUNTER PTC-4
7.3728MHz 26 2/3
~HCPRTR 27 1/3
TRACKING OFF A8c VR,802-7A
ICM10 SN74HC74N
ICA5 CX23028 ROTATION DIRECTION DETECTOR
Q3 2SA979
ICB7 μPC649C SAMPLE & HOLD
ICD7 TL082CP
ICC7 TC4053BP
ICD7 TL082CP
ICC6 TL082CP
TP10
TP11
TP21
TP12
TP13
Q3 2SA1175
DRUM MDA (X) A22b CD,104-2A
DRUM MDA (G) A23b CD,104-2B
DMVLD 29 2/3
DMCON 30 2/3
ICB6 SN74HC02N
ICC5 TC74HC4520P
ICB5 TC74HC08P
ICC7 TC4053BPHB
Q2 2SA1048-Y
ICG7 TC74HC240P
ICB5 TC74HC08P
ICC5 TC74HC4520P
ICC9 TC4053BP
ICB9 μPC649C SAMPLE & HOLD
TP9
ICD9 TL082CP
ICC9 TC4053BPHB
ICD9 TL082CP
CAP MDA (X) A22a CD,104-6A
CAP MDA (G) A23a CD,104-6B
CPVLD 31 2/3
CPCON 32 2/3
ICB6 SN74HC02N
IC1 μPC78L05A +5V REGULATOR
+5V B29a
+5V B29b
+5V B29c
+5V B30a
+5V B30b
+5V B30c
GND B31a
GND B31b
GND B31c
GND B32a
GND B32b
GND B32c
-5V B28a
-5V B28b
-5V B28c
+12V A2a
+12V A2b
+12V A2c
GND A1a
GND A1b
GND A1c
-12V A3a
-12V A3b
-12V A3c

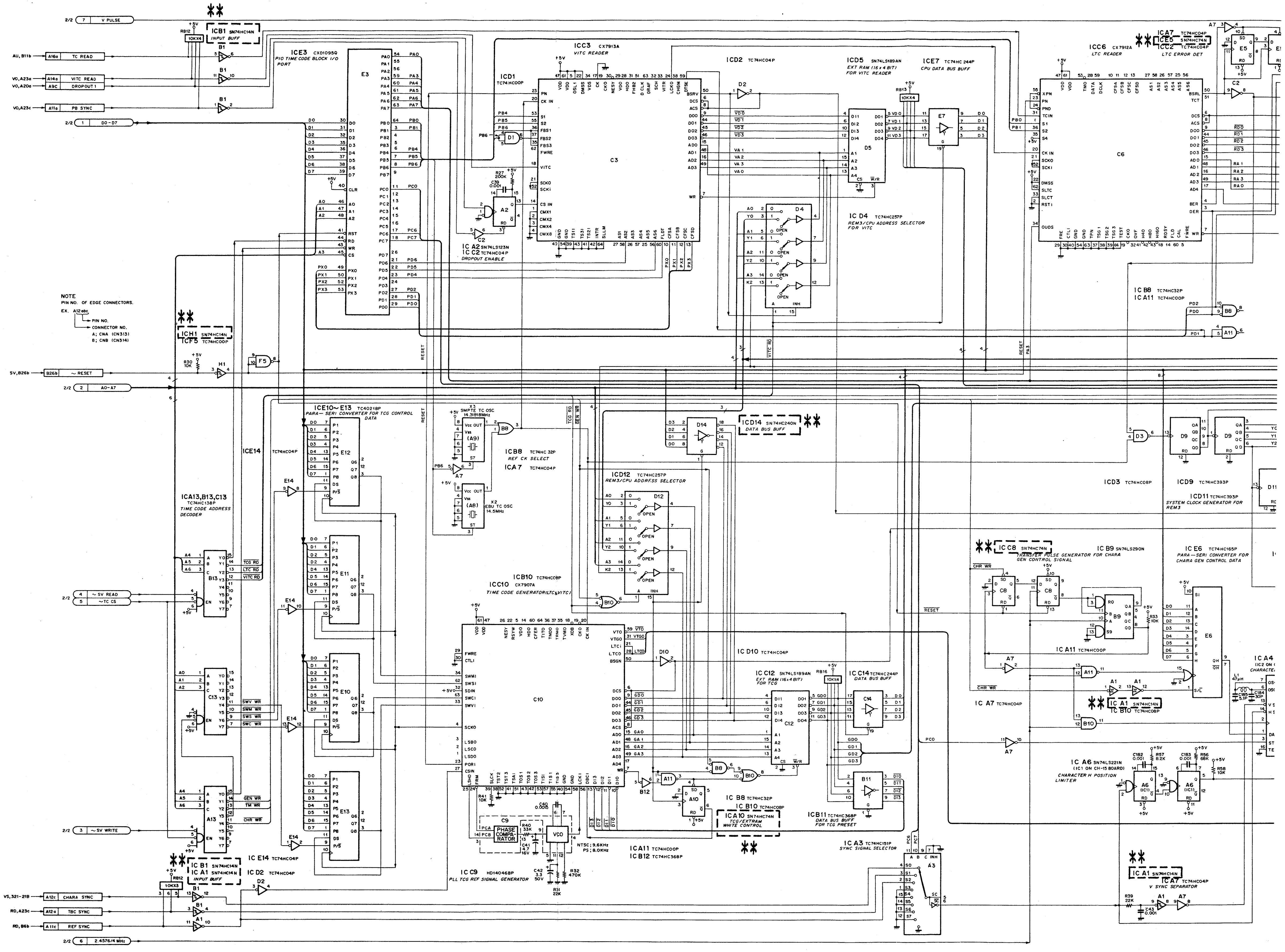
NOTE
PIN NO. OF EDGE CONNECTORS.

EX. A 12abc
→ PIN NO.
→ CONNECTOR NO.
A: CNA (CN315)
B: CNB (CN316)

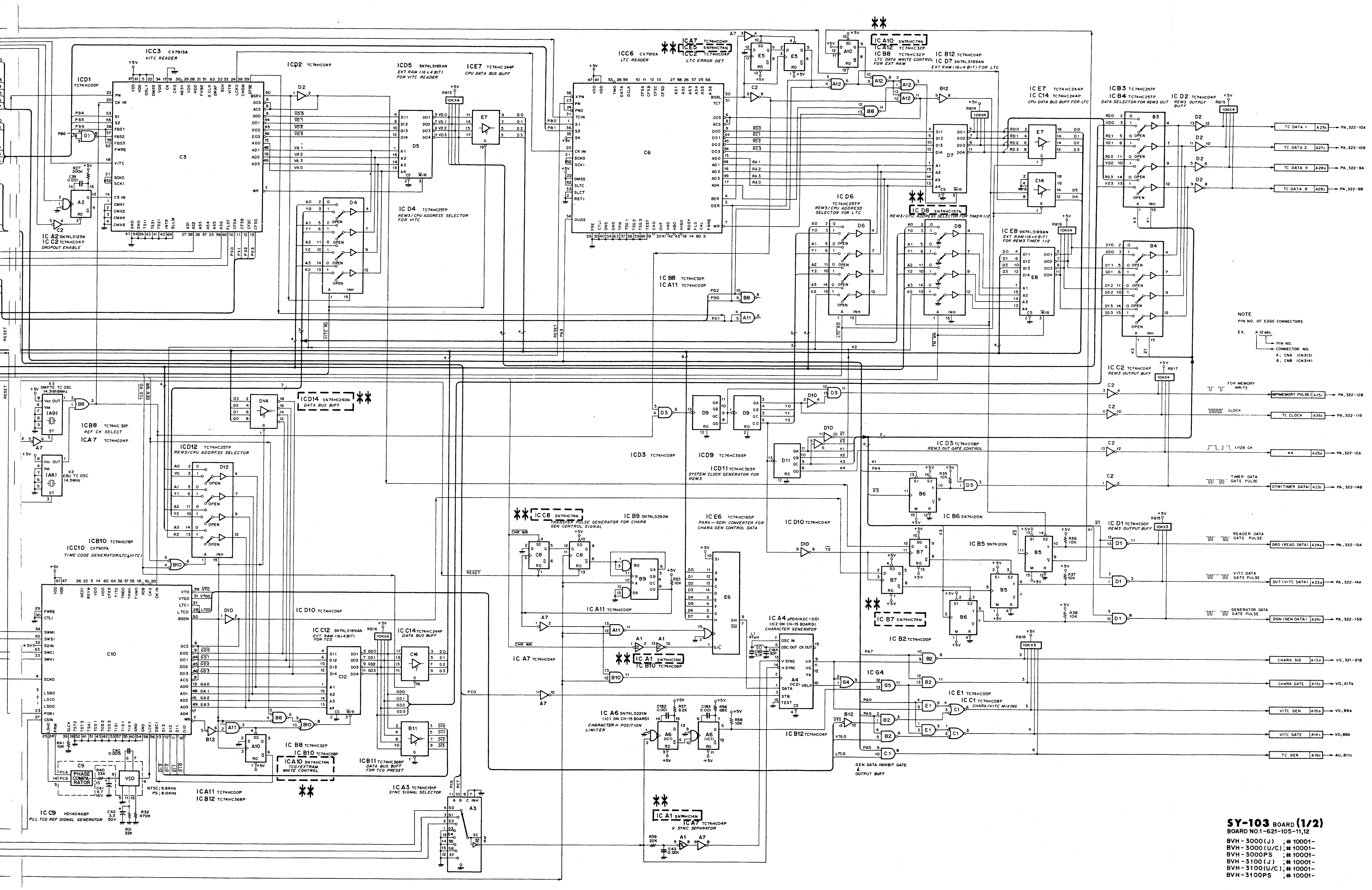
SV-90 BOARD (3/3)
BOARD NO.1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

SY-103 BOARD (1/2)

Reader/Generator
Time Code



NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)
ICB1 SN74HC14N INPUT BUFF
ICE3 CX010956 PIO TIME CODE BLOCK I/O PORT
ICD1 TC74HC00P
ICC3 CX7913A VITC READER
ICD2 TC74HC04P
ICD5 SN74LS189AN EXT RAM (16×4 BIT) FOR VITC READER
ICE7 TC74HC244P CPU DATA BUS BUFF
ICC6 CX7912A LTC READER
ICA7 TC74HC04P
ICE5 SN74HC74N
ICC2 TC74HC04P LTC ERROR DET
IC A2 SN74LS123N
IC C2 TC74HC04P DROPOUT ENABLE
IC D4 TC74HC257P REM3/CPU ADDRESS SELECTOR FOR VITC
IC B8 TC74HC32P
IC A11 TC74HC00P
ICH1 SN74HC14N
ICF5 TC74HC00P
ICE10~E13 TC4021BP PARA→SERI CONVERTER FOR TCG CONTROL DATA
ICE14 TC74HC04P
ICB8 TC74HC32P REF CK SELECT
ICA7 TC74HC04P
X3 SMPTE TC OSC 14.31818MHz
X2 EBU TC OSC 14.5MHz
ICD14 SN74HC240N DATA BUS BUFF
ICD12 TC74HC257P REM3/CPU ADDRESS SELECTOR
ICA13,B13,C13 TC74HC138P TIME CODE ADDRESS DECODER
ICB10 TC74HC08P
ICC10 CX7907A TIME CODE GENERATOR(LTC&VITC)
IC D10 TC74HC04P
IC C12 SN74LS189AN EXT RAM (16×4 BIT) FOR TCG
IC C14 TC74HC244P DATA BUS BUFF
IC B8 TC74HC32P
IC B10 TC74HC08P
ICA10 SN74HC74N TCG/EXTRAM WRITE CONTROL
ICB11 TC74HC368P DATA BUS BUFF FOR TCG PRESET
IC A3 TC74HC151P SYNC SIGNAL SELECTOR
ICA11 TC74HC00P
ICB12 TC74HC368P
IC C9 HD14046BP PLL TCG REF SIGNAL GENERATOR
PHASE COMPARATOR
VCO
NTSC; 9.6KHz
PS; 8.0KHz
IC B1 SN74HC14N
IC A1 SN74HC14N INPUT BUFF
IC E14 TC74HC04P
IC D2 TC74HC04P
ICD3 TC74HC08P
ICD9 TC74HC393P
ICD11 TC74HC393P SYSTEM CLOCK GENERATOR FOR REM3
IC C8 SN74HC74N TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIGNAL
IC B9 SN74LS290N
IC E6 TC74HC165P PARA→SERI CONVERTER FOR CHARA GEN CONTROL DATA
IC A11 TC74HC00P
IC A7 TC74HC04P
IC A1 SN74HC14N
IC B10 TC74HC08P
IC A6 SN74LS221N (IC1 ON CH-15 BOARD) CHARACTER H POSITION LIMITER
IC A1 SN74HC14N
ICA7 TC74HC04P V SYNC SEPARATOR
2/2 7 V PULSE
AU,B11b A16c TC READ
VO,A23a A14a VITC READ
VO,A20a A9C DROPOUT 1
VO,A23c A11a PB SYNC
2/2 1 D0-D7
SV,B26b B26b ~RESET
2/2 2 A0-A7
2/2 4 ~SV READ
5 ~TC CS
2/2 3 ~SV WRITE
VS,321-21B A12c CHARA SYNC
RD,A23c A12a TBC SYNC
RD,B6b A11c REF SYNC
2/2 6 2.4576/4 MHz


ICC3 CX7913A VITC READER
ICD1 TC74HC00P
IC A2 SN74LS123N
IC C2 TC74HC04P
DROPOUT ENABLE
ICD2 TC74HC04P
ICD5 SN74LS189AN
EXT RAM (16×4 BIT) FOR VITC READER
ICE7 TC74HC244P
CPU DATA BUS BUFF
IC D4 TC74HC257P
REM3/CPU ADDRESS SELECTOR FOR VITC
ICC6 CX7912A
LTC READER
ICA7 TC74HC04P
ICE5 SN74HC74N
ICC2 TC74HC04P
LTC ERROR DET
ICA10 SN74HC74N
ICA12 TC74HC32P
ICB8 TC74HC32P
LTC DATA WRITE CONTROL FOR EXT RAM
IC B12 TC74HC04P
IC D7 SN74LS189AN
EXT RAM (16×4 BIT) FOR LTC
IC E7 TC74HC244P
IC C14 TC74HC244P
CPU DATA BUS BUFF FOR LTC
ICB3 TC74HC257P
ICB4 TC74HC257P
DATA SELECTOR FOR REM3 OUT
IC D2 TC74HC04P
REM3 OUTPUT BUFF
RB15 10KX4
TC DATA 1 A27a PA,322-10A
TC DATA 2 A27c PA,322-10B
TC DATA 4 A28a PA,322-9A
TC DATA 8 A28c PA,322-9B
IC D6 TC74HC257P
REM3/CPU ADDRESS SELECTOR FOR LTC
IC D8 SN74HC157N
REM3/CPU ADDRESS SELECTOR FOR TIMER 1/2
IC E8 SN74LS189AN
EXT RAM (16×4 BIT) FOR REM3 TIMER 1/2
IC B8 TC74HC32P
IC A11 TC74HC00P
ICB8 TC74HC 32P
REF CK SELECT
ICA7 TC74HC04P
SMPTE TC OSC 14.31818MHz
EBU TC OSC 14.5MHz
ICD14 SN74HC240N
DATA BUS BUFF
ICD12 TC74HC257P
REM3/CPU ADDRESS SELECTOR
ICB10 TC74HC08P
ICC10 CX7907A
TIME CODE GENERATOR(LTC&VITC)
IC C2 TC74HC04P
REM3 OUTPUT BUFF
FOR MEMORY WRITE
MP(MEMORY PULSE) A25c PA,322-12B
CLOCK
TC CLOCK A26c PA,322-11B
1/128 CK
K4 A25a PA,322-12A
TIMER DATA GATE PULSE
DTM(TIMER DATA) A23c PA,322-14B
ICD3 TC74HC08P
ICD9 TC74HC393P
ICD11 TC74HC393P
SYSTEM CLOCK GENERATOR FOR REM3
IC D3 TC74HC08P
REM3 OUT GATE CONTROL
IC B6 SN74120N
IC B5 SN74120N
IC D1 TC74HC00P
REM3 OUTPUT BUFF
READER DATA GATE PULSE
DRD (READ DATA) A24a PA,322-13A
VITC DATA GATE PULSE
DVT (VITC DATA) A23a PA,322-14A
GENERATOR DATA GATE PULSE
DGN (GEN DATA) A24c PA,322-13B
ICC8 SN74HC74N
TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIGNAL
IC B9 SN74LS290N
IC E6 TC74HC165P
PARA-SERI CONVERTER FOR CHARA GEN CONTROL DATA
IC D10 TC74HC04P
IC B7 SN74HC74N
IC B2 TC74HC00P
IC A11 TC74HC00P
IC A1 SN74HC14N
IC B10 TC74HC08P
IC A7 TC74HC04P
IC A4 μPD6142C-001 (IC2 ON CH-15 BOARD)
CHARACTER GENERATOR
IC G4
IC E1 TC74HC00P
IC C1 TC74HC08P
CHARA/VITC MIXING
CHARA SIG A13a VS,321-21B
CHARA GATE A13c VO,A17a
VITC GEN A15a VO,B6a
VITC GATE A14c VO,B6b
TC GEN A16c AU,B11c
GEN DATA INHIBIT GATE & OUTPUT BUFF
IC D10 TC74HC04P
ICC12 SN74LS189AN
EXT RAM (16×4 BIT) FOR TCG
IC C14 TC74HC244P
DATA BUS BUFF
IC A6 SN74LS221N (IC1 ON CH-15 BOARD)
CHARACTER H POSITION LIMITER
IC B12 TC74HC04P
IC B8 TC74HC32P
IC B10 TC74HC08P
ICA10 SN74HC74N
TCG/EXTRAM WRITE CONTROL
ICB11 TC74HC368P
DATA BUS BUFF FOR TCG PRESET
IC A3 TC74HC151P
SYNC SIGNAL SELECTOR
ICA11 TC74HC00P
ICB12 TC74HC368P
IC C9 HD14046BP
PLL TCG REF SIGNAL GENERATOR
NTSC; 9.6KHz
PS; 8.0KHz
IC A1 SN74HC14N
ICA7 TC74HC04P
V SYNC SEPARATOR
RESET

NOTE
PIN NO. OF EDGE CONNECTORS

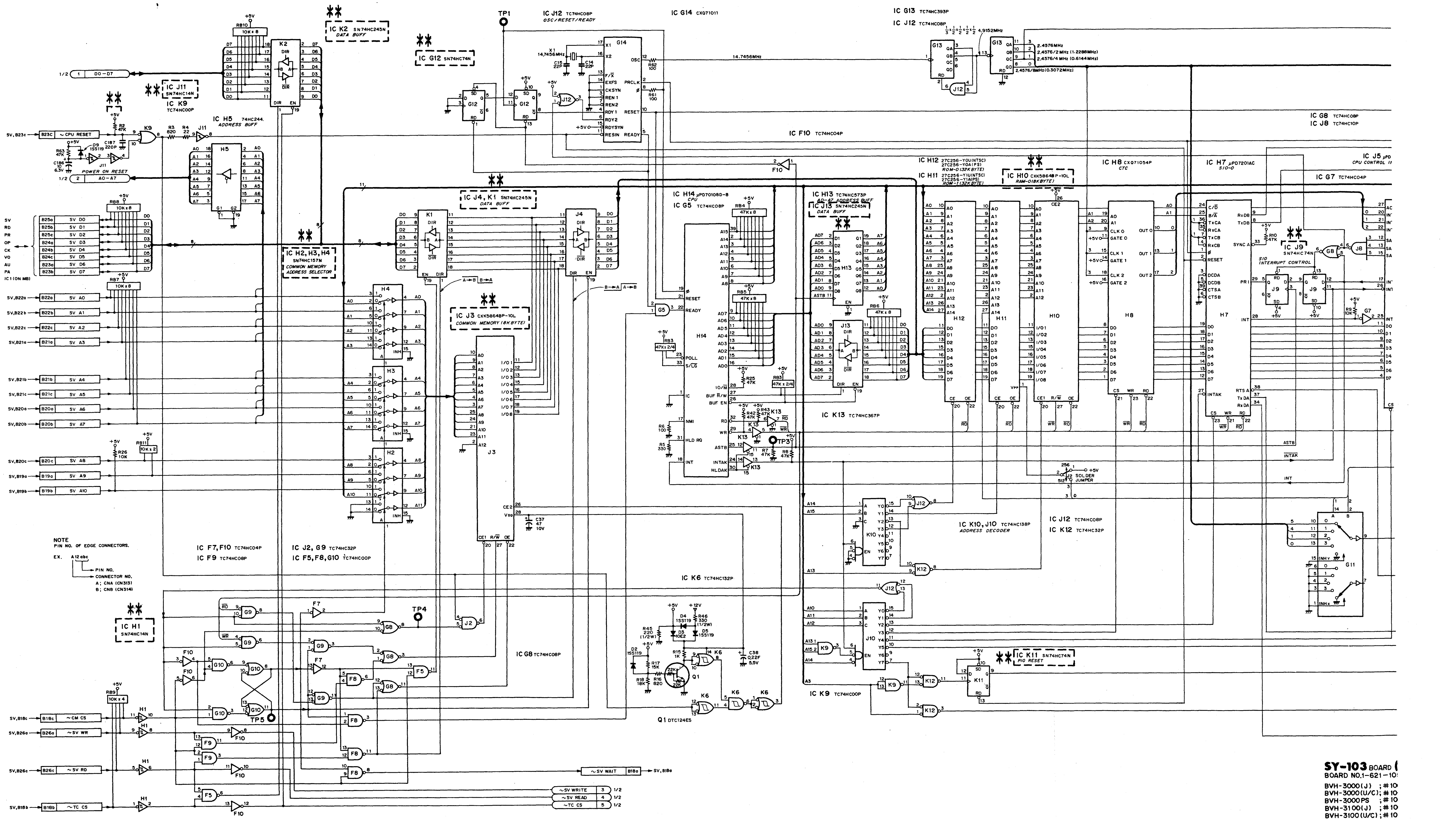
EX. A 12 abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)

SY-103 BOARD **(1/2)**
BOARD NO.1-621-105-11,12

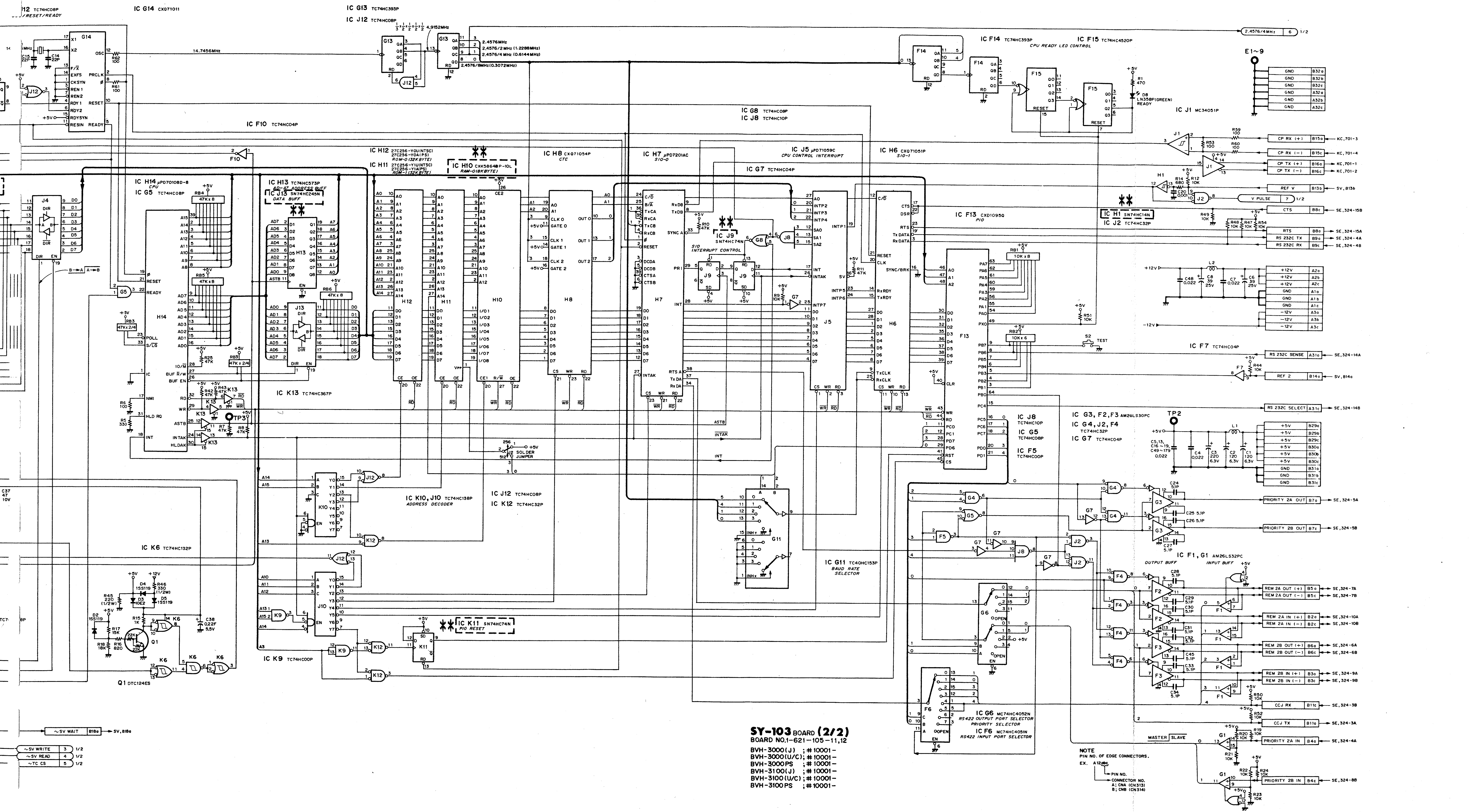
BVH-3000(J) ;#10001-
BVH-3000(U/C) ;#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C) ;#10001-
BVH-3100PS ;#10001-

SY-103 BOARD (2/2)

System Control


IC K2 SN74HC245N DATA BUFF
IC G12 SN74HC74N
TP1
IC J12 TC74HC08P OSC/RESET/READY
IC G14 CXQ71011
IC G13 TC74HC393P
IC J12 TC74HC08P
14.7456MHz
2.4576MHz
2.4576/2 MHz (1.2288MHz)
2.4576/4 MHz (0.6144MHz)
2.4576/8MHz (0.3072MHz)
IC J11 SN74HC14N
IC K9 TC74HC00P
IC H5 74HC244 ADDRESS BUFF
POWER ON RESET
~ CPU RESET
DO-D7
AO-A7
IC F10 TC74HC04P
IC G8 TC74HC08P
IC J8 TC74HC10P
IC J5 µPD CPU CONTROL
IC G7 TC74HC04P
IC J4, K1 SN74HC245N DATA BUFF
IC H2, H3, H4 SN74HC157N COMMON MEMORY ADDRESS SELECTOR
IC J3 CXK5864BP-10L COMMON MEMORY (8KBYTE)
IC H14 µPD70108D-8 CPU
IC G5 TC74HC08P
IC J13 SN74HC245N DATA BUFF
IC H13 TC74HC573P AD-A7 ADDRESS BUFF
IC K13 TC74HC367P
IC H12 27C256-Y0(NTSC) 27C256-Y0A(PS) ROM-0(32KBYTE)
IC H11 27C256-Y1(NTSC) 27C256-Y1A(PS) ROM-1(32KBYTE)
IC H10 CXK5864BP-10L RAM-0(8KBYTE)
IC H8 CXQ71054P CTC
IC H7 µPD7201AC SIO-0
IC J9 SN74HC74N SIO INTERRUPT CONTROL
TP3
SOLDER JUMPER
IC K10, J10 TC74HC138P ADDRESS DECODER
IC J12 TC74HC08P
IC K12 TC74HC32P
IC G11
IC K11 SN74HC74N PIO RESET
IC K9 TC74HC00P
IC K6 TC74HC132P
Q1 DTC124ES
IC G8 TC74HC08P
IC F7, F10 TC74HC04P
IC F9 TC74HC08P
IC J2, G9 TC74HC32P
IC F5, F8, G10 TC74HC00P
TP4
TP5
IC H1 SN74HC14N
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)
~CM CS
~SV WR
~SV RD
~TC CS
~SV WAIT
~SV WRITE
~SV READ
~TC CS

SY-103 BOARD (
BOARD NO.1-621-10
BVH-3000(J) ;#10
BVH-3000(U/C);#10
BVH-3000PS ;#10
BVH-3100(J) ;#10
BVH-3100(U/C);#10
BVH-3100PS ;#10


IC G14 CX071011
IC G13 TC74HC393P
IC J12 TC74HC08P
14.7456MHz
4.9152MHz
2.4576MHz
2.4576/2 MHz (1.2288MHz)
2.4576/4 MHz (0.6144MHz)
2.4576/8MHz (0.3072MHz)
IC F14 TC74HC393P
IC F15 TC74HC4520P
CPU READY LED CONTROL
E1~9
IC F10 TC74HC04P
IC G8 TC74HC08P
IC J8 TC74HC10P
IC J1 MC34051P
IC H12 27C256-YOU(NTSC) 27C256-YOA(PS) ROM-0 (32K BYTE)
IC H11 27C256-Y1U(NTSC) 27C256-Y1A(PS) ROM-1 (32K BYTE)
IC H10 CXK5864BP-10L RAM-0(8K BYTE)
IC H8 CX071054P CTC
IC H7 µPD7201AC SIO-0
IC J5 µPD71059C CPU CONTROL INTERRUPT
IC H6 CX071051P SIO-1
IC G7 TC74HC04P
IC H14 µPD70108D-8 CPU
IC G5 TC74HC08P
IC H13 TC74HC573P A0-A7 ADDRESS BUFF
IC J13 SN74HC245N DATA BUFF
IC J9 SN74HC74N SIO INTERRUPT CONTROL
IC H1 SN74HC14N
IC J2 TC74HC32P
IC F13 CXD1095Q PIO
IC K13 TC74HC367P
IC F7 TC74HC04P
TP2
TP3
IC J8 TC74HC10P
IC G5 TC74HC08P
IC F5 TC74HC00P
IC G3, F2, F3 AM26LS30PC
IC G4, J2, F4 TC74HC32P
IC G7 TC74HC04P
IC K10, J10 TC74HC138P ADDRESS DECODER
IC J12 TC74HC08P
IC K12 TC74HC32P
IC K6 TC74HC132P
IC K9 TC74HC00P
IC K11 SN74HC74N PIO RESET
IC G11 TC4OHC153P BAUD RATE SELECTOR
IC F1, G1 AM26LS32PC
OUTPUT BUFF
INPUT BUFF
IC G6 MC74HC4052N RS422 OUTPUT PORT SELECTOR PRIORITY SELECTOR
IC F6 MC74HC4051N RS422 INPUT PORT SELECTOR
Q1 DTC124ES
SOLDER JUMPER
MASTER
SLAVE
CP RX (+)
CP RX (−)
CP TX (+)
CP TX (−)
REF V
V PULSE
CTS
RTS
RS 232C TX
RS 232C RX
RS 232C SENSE
REF 2
RS 232C SELECT
PRIORITY 2A OUT
PRIORITY 2B OUT
REM 2A OUT (+)
REM 2A OUT (−)
REM 2A IN (+)
REM 2A IN (−)
REM 2B OUT (+)
REM 2B OUT (−)
REM 2B IN (+)
REM 2B IN (−)
CCJ RX
CCJ TX
PRIORITY 2A IN
PRIORITY 2B IN
~5V WAIT
~5V WRITE
~5V READ
~TC CS

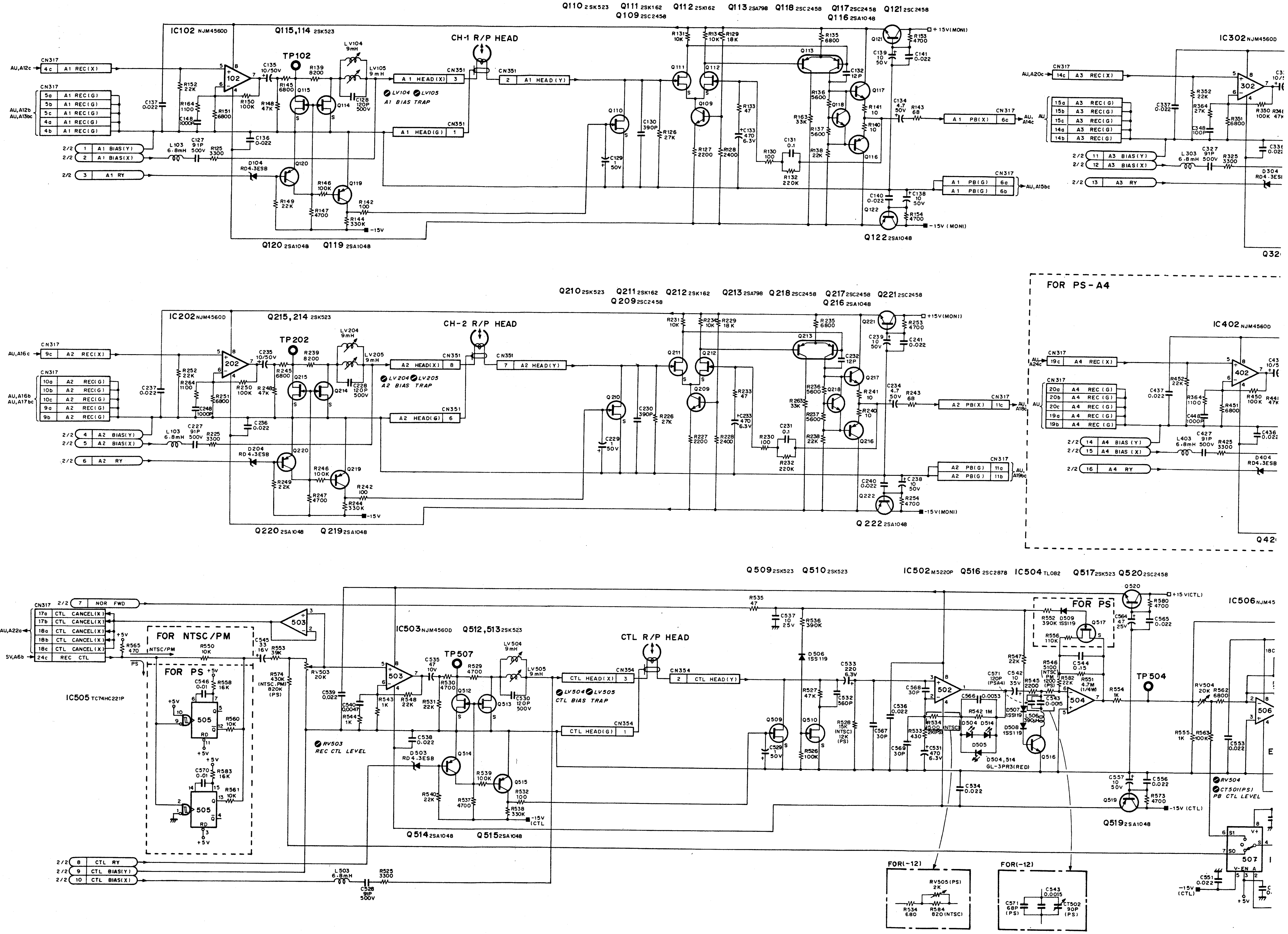
SY-103 BOARD **(2/2)**
BOARD NO.1-621-105-11,12

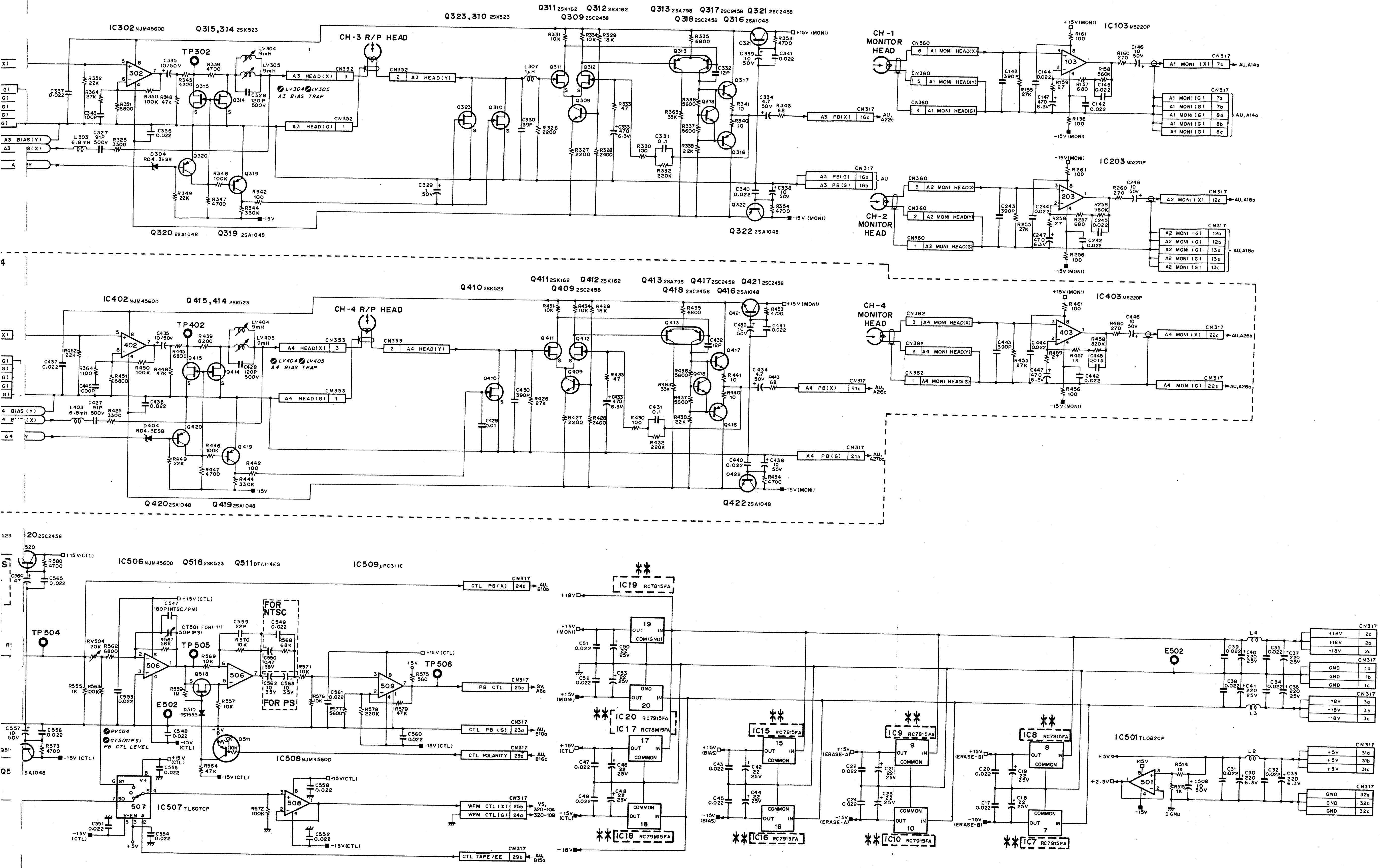
BVH-3000(J) ;#10001-
BVH-3000(U/C);#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C);#10001-
BVH-3100PS ;#10001-

NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)

AP-15 BOARD (1/2)

Audio Preamplifier, Bias, Erase

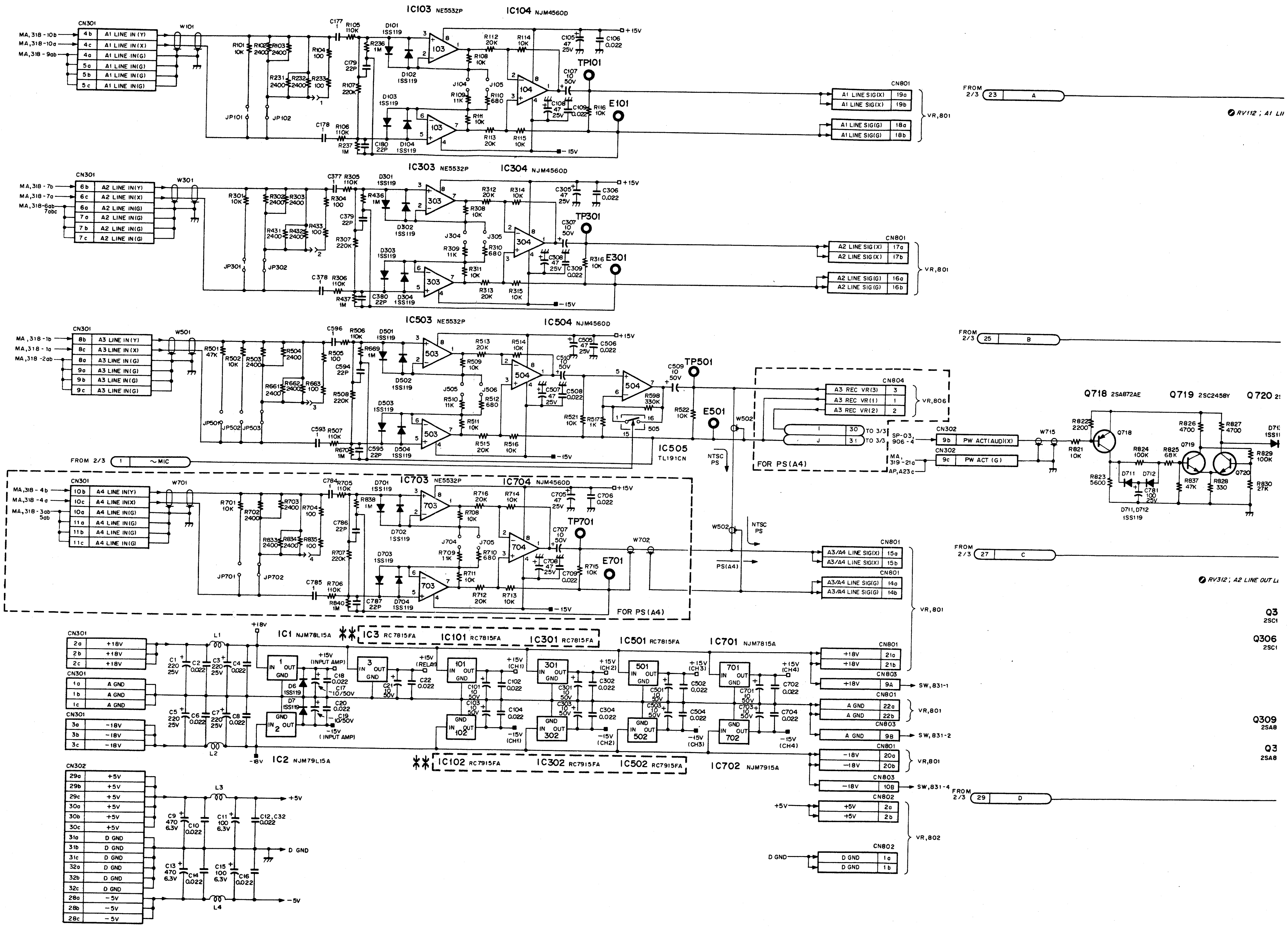

Q110 2SK523 Q111 2SK162 Q112 2SK162 Q113 2SA798 Q118 2SC2458 Q117 2SC2458 Q121 2SC2458
Q109 2SC2458
Q116 2SA1048
IC102 NJM4560D
Q115,114 2SK523
TP102
CH-1 R/P HEAD
LV104 LV105 A1 BIAS TRAP
A1 HEAD(X)
A1 HEAD(Y)
A1 HEAD(G)
A1 PB(X)
A1 PB(G)
+15V(MONI)
-15V(MONI)
Q122 2SA1048
Q120 2SA1048 Q119 2SA1048
CN317
CN351
A1 REC(X)
A1 REC(G)
A1 BIAS(Y)
A1 BIAS(X)
A1 RY
IC302 NJM4560D
A3 REC(X)
A3 REC(G)
A3 BIAS(Y)
A3 BIAS(X)
A3 RY
Q210 2SK523 Q211 2SK162 Q212 2SK162 Q213 2SA798 Q218 2SC2458 Q217 2SC2458 Q221 2SC2458
Q209 2SC2458
Q216 2SA1048
IC202 NJM4560D
Q215,214 2SK523
TP202
CH-2 R/P HEAD
LV204 LV205 A2 BIAS TRAP
A2 HEAD(X)
A2 HEAD(Y)
A2 HEAD(G)
A2 PB(X)
A2 PB(G)
A2 REC(X)
A2 REC(G)
A2 BIAS(Y)
A2 BIAS(X)
A2 RY
Q222 2SA1048
Q220 2SA1048 Q219 2SA1048
FOR PS-A4
IC402 NJM4560D
A4 REC(X)
A4 REC(G)
A4 BIAS(Y)
A4 BIAS(X)
A4 RY
Q509 2SK523 Q510 2SK523
IC502 M5220P Q516 2SC2878 IC504 TL082 Q517 2SK523 Q520 2SC2458
IC506 NJM45
NOR FWD
CTL CANCEL(X)
REC CTL
FOR NTSC/PM
FOR PS
IC505 TC74HC221P
IC503 NJM4560D
Q512,513 2SK523
TP507
CTL R/P HEAD
CTL HEAD(X)
CTL HEAD(Y)
CTL HEAD(G)
LV504 LV505 CTL BIAS TRAP
RV503 REC CTL LEVEL
TP504
D504,514 GL-3PR3(RED)
RV504
CT501(PS) PB CTL LEVEL
+15V(CTL)
-15V(CTL)
Q519 2SA1048
Q514 2SA1048 Q515 2SA1048
CTL RY
CTL BIAS(Y)
CTL BIAS(X)
FOR(-12)
RV505(PS)
FOR(-12)

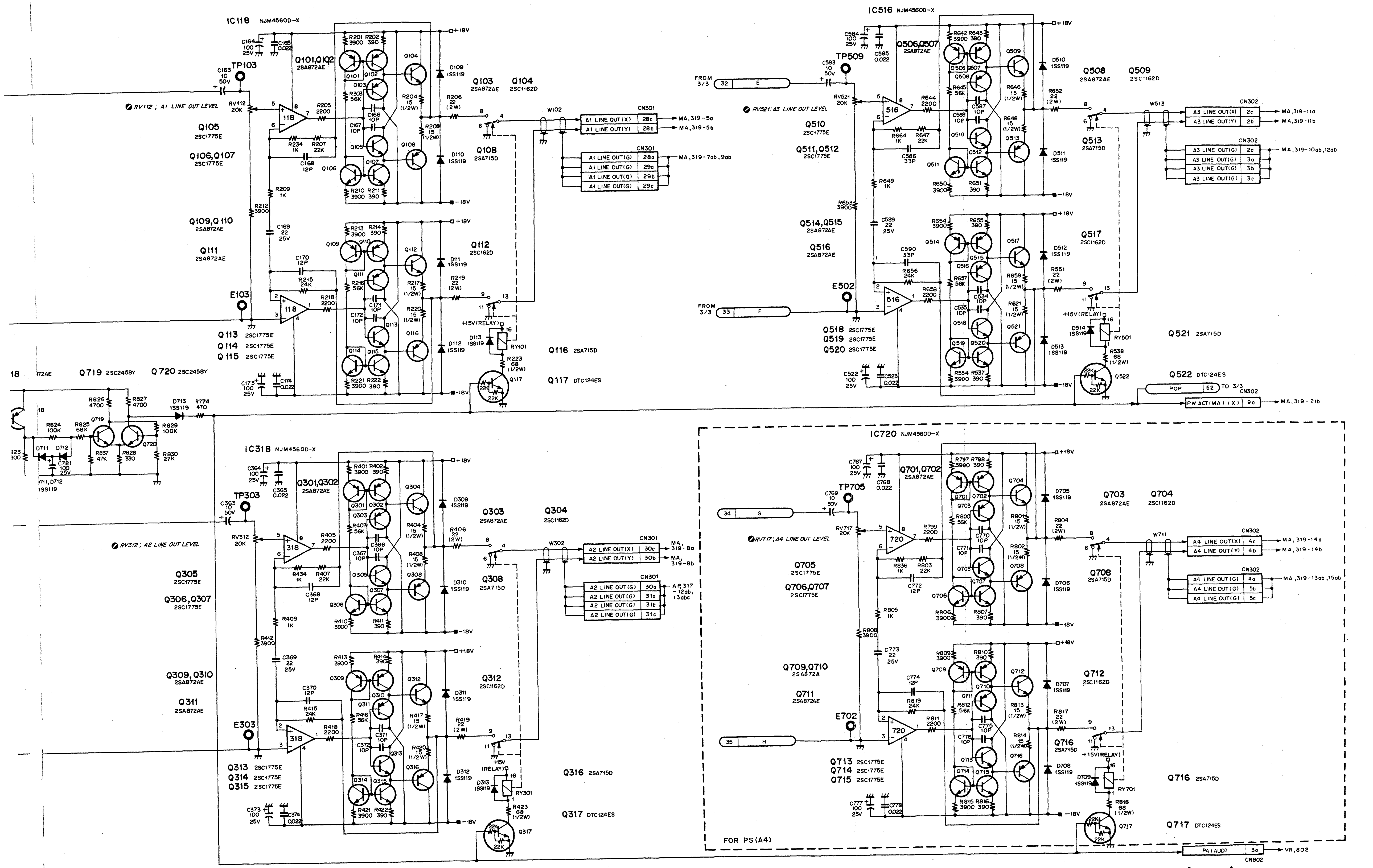

IC302 NJM4560D
Q315,314 2SK523
Q323,310 2SK523
Q311 2SK162 Q312 2SK162
Q309 2SC2458
Q313 2SA798 Q317 2SC2458 Q321 2SC2458
Q318 2SC2458 Q316 2SA1048
CH-3 R/P HEAD
TP302
LV304 9mH
LV305 9mH
A3 BIAS TRAP
A3 HEAD(X)
A3 HEAD(Y)
A3 HEAD(G)
A3 BIAS(Y)
A3 PB(X)
A3 PB(G)
+15V (MONI)
-15V (MONI)
Q320 2SA1048
Q319 2SA1048
Q322 2SA1048
CH-1 MONITOR HEAD
IC103 M5220P
A1 MONI HEAD(X)
A1 MONI HEAD(Y)
A1 MONI HEAD(G)
A1 MONI (X)
A1 MONI (G)
CH-2 MONITOR HEAD
IC203 M5220P
A2 MONI HEAD(X)
A2 MONI HEAD(Y)
A2 MONI HEAD(G)
A2 MONI (X)
A2 MONI (G)
IC402 NJM4560D
Q415,414 2SK523
Q410 2SK523
Q411 2SK162 Q412 2SK162
Q409 2SC2458
Q413 2SA798 Q417 2SC2458 Q421 2SC2458
Q418 2SC2458 Q416 2SA1048
CH-4 R/P HEAD
TP402
LV404 9mH
LV405 9mH
A4 BIAS TRAP
A4 HEAD(X)
A4 HEAD(Y)
A4 HEAD(G)
A4 BIAS(Y)
A4 PB(X)
A4 PB(G)
Q420 2SA1048
Q419 2SA1048
Q422 2SA1048
CH-4 MONITOR HEAD
IC403 M5220P
A4 MONI HEAD(X)
A4 MONI HEAD(Y)
A4 MONI HEAD(G)
A4 MONI (X)
A4 MONI (G)
Q520 2SC2458
IC506 NJM4560D
Q518 2SK523
Q511 DTA114ES
IC509 μPC311C
TP504
TP505
TP506
E502
FOR NTSC
FOR PS
CT501 FOR(-11)
RV504
CT501(PS)
PB CTL LEVEL
CTL PB(X)
PB CTL
CTL PB (G)
CTL POLARITY
IC508 NJM4560D
IC507 TL607CP
WFM CTL(X)
WFM CTL(G)
CTL TAPE/EE
+15V (CTL)
-15V (CTL)
IC19 RC7815FA
IC20 RC7915FA
IC17 RC78M15FA
IC18 RC79M15FA
IC15 RC7815FA
IC16 RC7915FA
IC9 RC7815FA
IC10 RC7915FA
IC8 RC7815FA
IC7 RC7915FA
IC501 TL082CP
+18V
-18V
+15V (BIAS)
-15V (BIAS)
+15V (ERASE-A)
-15V (ERASE-A)
+15V (ERASE-B)
-15V (ERASE-B)
+5V
+2.5V
D GND
GND
CN317
CN352
CN353
CN360
CN362

AP-15 BOARD **(1/2)**
BOARD NO.1-621-107-11,12
BVH-3000(J) ; #10001-
BVH-3000(U/C); #10001-
BVH-3000PS ; #10001-
BVH-3100(J) ; #10001-
BVH-3100(U/C); #10001-
BVH-3100PS ; #10001-

AU-88 BOARD (1/3)

Audio REC/PB Amplifier


IC103 NE5532P
IC104 NJM4560D
IC303 NE5532P
IC304 NJM4560D
IC503 NE5532P
IC504 NJM4560D
IC505 TL191CN
IC703 NE5532P
IC704 NJM4560D
IC1 NJM78L15A
IC2 NJM79L15A
IC3 RC7815FA
IC101 RC7815FA
IC301 RC7815FA
IC501 RC7815FA
IC701 NJM7815A
IC102 RC7915FA
IC302 RC7915FA
IC502 RC7915FA
IC702 NJM7915A
CN301
MA,318-10b
MA,318-10a
MA,318-9ab
A1 LINE IN(Y)
A1 LINE IN(X)
A1 LINE IN(G)
A2 LINE IN(Y)
A2 LINE IN(X)
A2 LINE IN(G)
A3 LINE IN(Y)
A3 LINE IN(X)
A3 LINE IN(G)
A4 LINE IN(Y)
A4 LINE IN(X)
A4 LINE IN(G)
W101
W301
W501
W701
W502
W702
W715
TP101
TP301
TP501
TP701
E101
E301
E501
E701
JP101
JP102
JP301
JP302
JP501
JP502
JP503
JP701
JP702
CN801
A1 LINE SIG(X)
A1 LINE SIG(G)
A2 LINE SIG(X)
A2 LINE SIG(G)
A3/A4 LINE SIG(X)
A3/A4 LINE SIG(G)
VR,801
VR,802
VR,806
CN804
A3 REC VR(3)
A3 REC VR(1)
A3 REC VR(2)
FOR PS(A4)
NTSC PS
PS(A4)
FROM 2/3 ~MIC
TO 3/3
SP-03, 906-4
MA, 319-21a AP,A23c
CN302
PW ACT(AUD)(X)
PW ACT (G)
Q718 2SA872AE
Q719 2SC2458Y
Q720
D711, D712 1SS119
FROM 2/3 23 A
FROM 2/3 25 B
FROM 2/3 27 C
FROM 2/3 29 D
RV112 ; A1 LI
RV312 ; A2 LINE OUT L
Q3
Q306
Q309
+15V
-15V
+18V
-18V
A GND
D GND
+5V
-5V
(INPUT AMP)
(RELAY)
(CH1)
(CH2)
(CH3)
(CH4)
CN803
CN802
SW,831-1
SW,831-2
SW,831-4
CN302
L1
L2
L3
L4

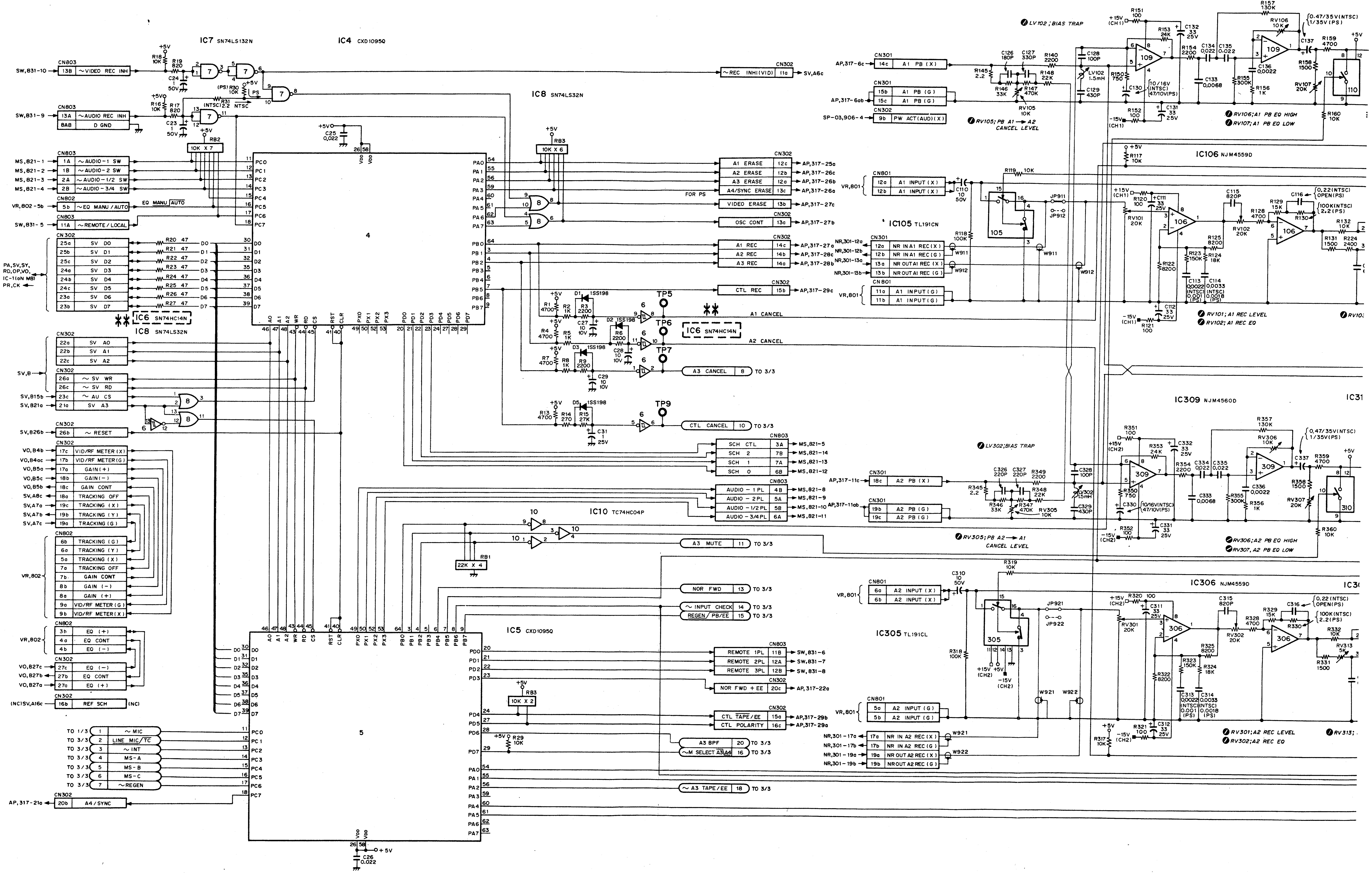

IC118 NJM4560D-X
TP103
RV112 ; A1 LINE OUT LEVEL
Q101,Q102 2SA872AE
Q103 2SA872AE
Q104 2SC1162D
Q105 2SC1775E
Q106,Q107 2SC1775E
Q108 2SA715D
Q109,Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1162D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q116 2SA715D
Q117 DTC124ES
E103
RY101
W102
CN301
A1 LINE OUT (X) 28c
A1 LINE OUT (Y) 28b
A1 LINE OUT (G) 28a
A1 LINE OUT (G) 29a
A1 LINE OUT (G) 29b
A1 LINE OUT (G) 29c
MA, 319-5a
MA, 319-5b
MA, 319-7ab, 9ab
Q719 2SC2458Y
Q720 2SC2458Y
D713 1SS119
R774 470
IC318 NJM4560D-X
TP303
RV312 ; A2 LINE OUT LEVEL
Q301,Q302 2SA872AE
Q303 2SA872AE
Q304 2SC1162D
Q305 2SC1775E
Q306,Q307 2SC1775E
Q308 2SA715D
Q309,Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1162D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
Q316 2SA715D
Q317 DTC124ES
E303
RY301
W302
A2 LINE OUT (X) 30c
A2 LINE OUT (Y) 30b
A2 LINE OUT (G) 30a
A2 LINE OUT (G) 31a
A2 LINE OUT (G) 31b
A2 LINE OUT (G) 31c
MA, 319-8a
MA, 319-8b
AR 317 -12ab, 13abc
IC516 NJM4560D-X
TP509
FROM 3/3 32 E
FROM 3/3 33 F
RV521 ; A3 LINE OUT LEVEL
Q506,Q507 2SA872AE
Q508 2SA872AE
Q509 2SC1162D
Q510 2SC1775E
Q511,Q512 2SC1775E
Q513 2SA715D
Q514,Q515 2SA872AE
Q516 2SA872AE
Q517 2SC1162D
Q518 2SC1775E
Q519 2SC1775E
Q520 2SC1775E
Q521 2SA715D
Q522 DTC124ES
E502
RY501
W513
CN302
A3 LINE OUT (X) 2c
A3 LINE OUT (Y) 2b
A3 LINE OUT (G) 2a
A3 LINE OUT (G) 3a
A3 LINE OUT (G) 3b
A3 LINE OUT (G) 3c
MA, 319-11a
MA, 319-11b
MA, 319-10ab, 12ab
POP 52 TO 3/3
PW ACT(MA) (X) 9a
MA, 319-21b
IC720 NJM4560D-X
TP705
34 G
35 H
RV717 ; A4 LINE OUT LEVEL
Q701,Q702 2SA872AE
Q703 2SA872AE
Q704 2SC1162D
Q705 2SC1775E
Q706,Q707 2SC1775E
Q708 2SA715D
Q709,Q710 2SA872A
Q711 2SA872AE
Q712 2SC1162D
Q713 2SC1775E
Q714 2SC1775E
Q715 2SC1775E
Q716 2SA715D
Q717 DTC124ES
E702
RY701
W711
A4 LINE OUT (X) 4c
A4 LINE OUT (Y) 4b
A4 LINE OUT (G) 4a
A4 LINE OUT (G) 5b
A4 LINE OUT (G) 5c
MA, 319-14a
MA, 319-14b
MA, 319-13ab, 15ab
FOR PS (A4)
PA (AUD) 3a
CN802
VR, 802
+18V
-18V
+15V (RELAY)

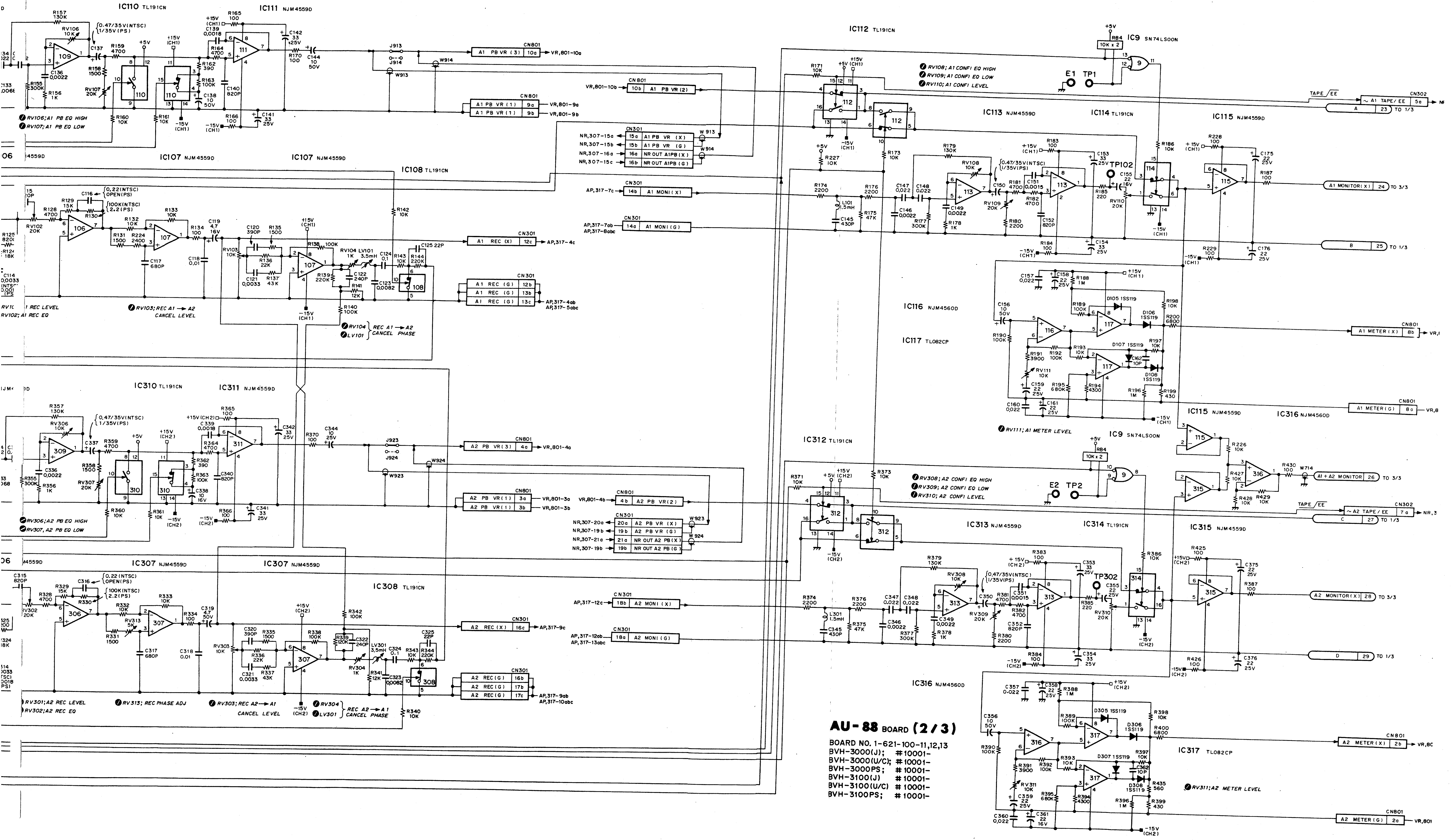
AU-88 BOARD (1/3)

BOARD NO. 1-621-100-11,12,13
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
✱✱BVH-3000PS ; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
✱✱BVH-3100PS ; #10001-

AU-88 BOARD (2/3)

Audio REC/PB Amplifier

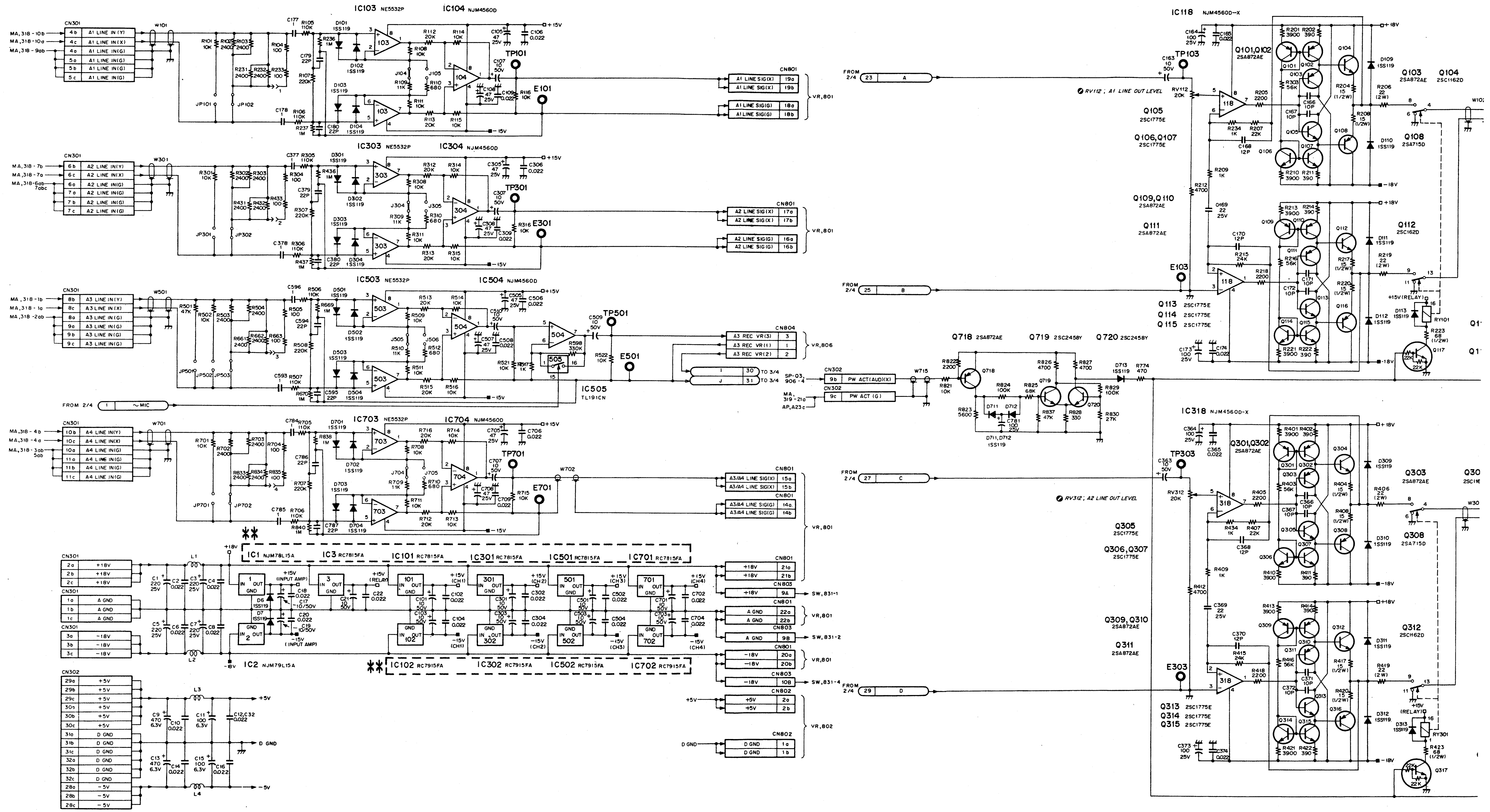

IC7 SN74LS132N
IC4 CXD1095Q
IC8 SN74LS32N
IC6 SN74HC14N
IC10 TC74HC04P
IC5 CXD1095Q
IC109 NJM4560D
IC110 TL19
IC106 NJM4559D
IC105 TL191CN
IC309 NJM4560D
IC306 NJM4559D
IC305 TL191CL
TP5
TP6
TP7
TP9
CN803
CN802
CN302
CN301
CN801
~VIDEO REC INH
~AUDIO REC INH
D GND
~AUDIO-1 SW
~AUDIO-2 SW
~AUDIO-1/2 SW
~AUDIO-3/4 SW
~EQ MANU/AUTO
~REMOTE/LOCAL
~REC INHI(VID)
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
FOR PS
VIDEO ERASE
OSC CONT
A1 REC
A2 REC
A3 REC
CTL REC
A1 CANCEL
A2 CANCEL
A3 CANCEL
CTL CANCEL
SCH CTL
SCH 2
SCH 1
SCH 0
AUDIO-1PL
AUDIO-2PL
AUDIO-1/2PL
AUDIO-3/4PL
A3 MUTE
NOR FWD
~INPUT CHECK
REGEN/PB/EE
REMOTE 1PL
REMOTE 2PL
REMOTE 3PL
NOR FWD + EE
CTL TAPE/EE
CTL POLARITY
A3 BPF
~M SELECT A3/A4
~A3 TAPE/EE
TO 3/3
VID/RF METER(X)
VID/RF METER(G)
GAIN(+)
GAIN(-)
GAIN CONT
TRACKING OFF
TRACKING (X)
TRACKING (Y)
TRACKING (G)
EQ (+)
EQ CONT
EQ (-)
REF SCH
~RESET
~MIC
LINE MIC/TC
~INT
MS-A
MS-B
MS-C
~REGEN
A4/SYNC
A1 PB (X)
A1 PB (G)
PW ACT(AUD)(X)
A1 INPUT (X)
A1 INPUT (G)
NR IN A1 REC(X)
NR IN A1 REC(G)
NR OUT A1 REC(X)
NR OUT A1 REC(G)
A2 PB (X)
A2 PB (G)
A2 INPUT (X)
A2 INPUT (G)
NR IN A2 REC(X)
NR IN A2 REC(G)
NR OUT A2 REC(X)
NR OUT A2 REC(G)
LV102;BIAS TRAP
RV105;PB A1→A2 CANCEL LEVEL
RV106;A1 PB EQ HIGH
RV107;A1 PB EQ LOW
RV101;A1 REC LEVEL
RV102;A1 REC EQ
LV302;BIAS TRAP
RV305;PB A2→A1 CANCEL LEVEL
RV306;A2 PB EQ HIGH
RV307;A2 PB EQ LOW
RV301;A2 REC LEVEL
RV302;A2 REC EQ
0.47/35V(NTSC)
1/35V(PS)
0.22(NTSC)
OPEN(PS)
100K(NTSC)
2.2(PS)

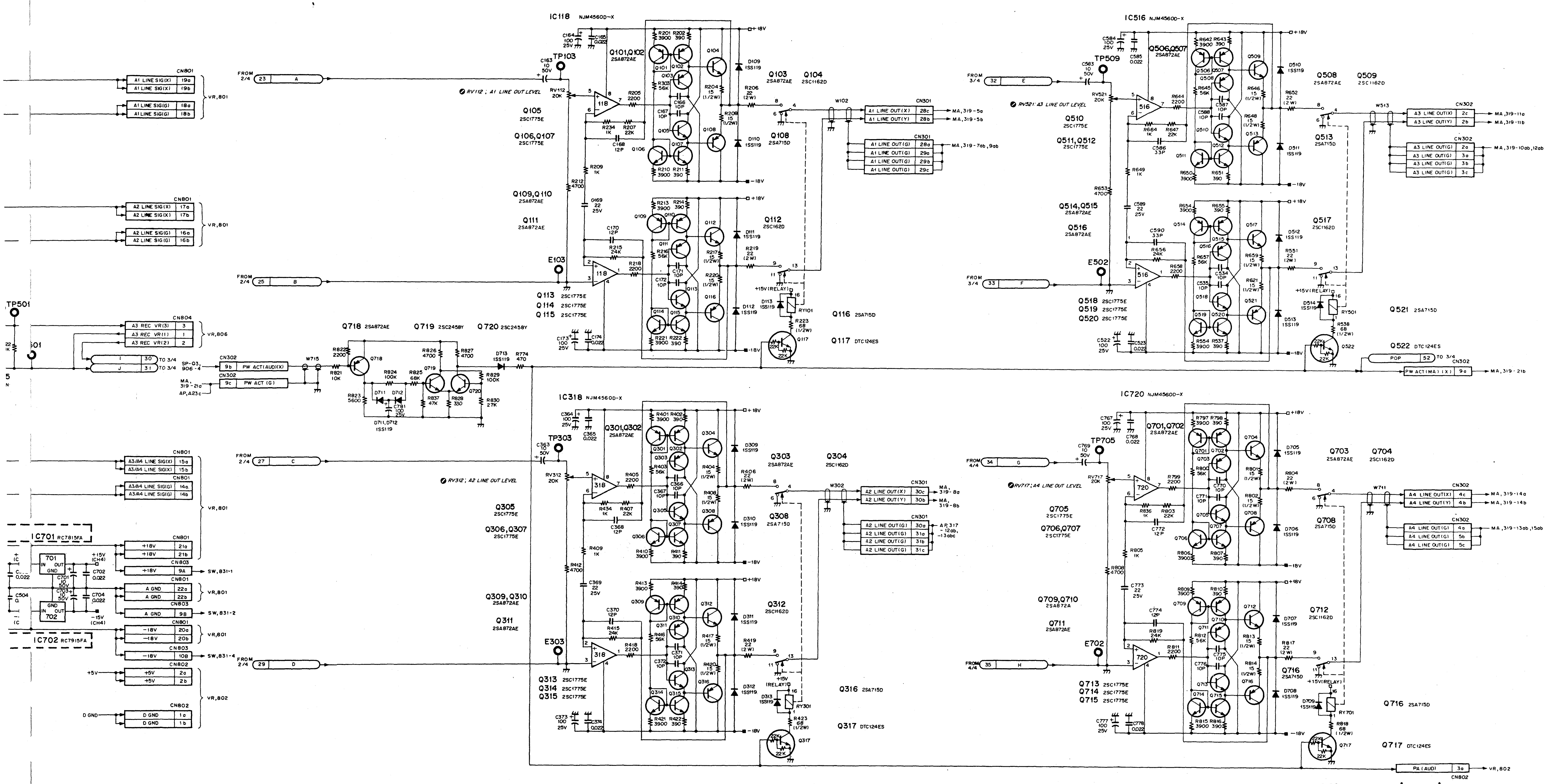

IC110 TL191CN
IC111 NJM4559D
IC107 NJM4559D
IC108 TL191CN
IC112 TL191CN
IC9 SN74LS00N
IC113 NJM4559D
IC114 TL191CN
IC115 NJM4559D
IC116 NJM4560D
IC117 TL082CP
IC310 TL191CN
IC311 NJM4559D
IC307 NJM4559D
IC308 TL191CN
IC312 TL191CN
IC313 NJM4559D
IC314 TL191CN
IC315 NJM4559D
IC316 NJM4560D
IC317 TL082CP
E1 TP1
E2 TP2
TP102
TP302
RV106; A1 PB EQ HIGH
RV107; A1 PB EQ LOW
RV103; REC A1 → A2 CANCEL LEVEL
RV104 LV101 } REC A1 → A2 CANCEL PHASE
RV108; A1 CONFI EQ HIGH
RV109; A1 CONFI EQ LOW
RV110; A1 CONFI LEVEL
RV111; A1 METER LEVEL
RV306; A2 PB EQ HIGH
RV307; A2 PB EQ LOW
RV301; A2 REC LEVEL
RV302; A2 REC EQ
RV313; REC PHASE ADJ
RV303; REC A2 → A1 CANCEL LEVEL
RV304 LV301 } REC A2 → A1 CANCEL PHASE
RV308; A2 CONFI EQ HIGH
RV309; A2 CONFI EQ LOW
RV310; A2 CONFI LEVEL
RV311; A2 METER LEVEL
CN801 A1 PB VR (3) 10a → VR,801-10a
CN801 A1 PB VR (1) 9a → VR,801-9a
A1 PB VR (1) 9b → VR,801-9b
VR,801-10b → 10b A1 PB VR (2)
CN301 NR,307-15a 15a A1 PB VR (X)
NR,307-15b 15b A1 PB VR (G)
NR,307-16a 16a NR OUT A1PB (X)
NR,307-15c 16b NR OUT A1PB (G)
AP,317-7c → 14b A1 MONI (X)
AP,317-7ab AP,317-8abc 14a A1 MONI (G)
CN301 A1 REC (X) 12c → AP,317-4c
A1 REC (G) 12b
A1 REC (G) 13b
A1 REC (G) 13c AP,317-4ab AP,317-5abc
TAPE/EE CN302 ~ A1 TAPE/EE 5a → NR
A 23 TO 1/3
A1 MONITOR (X) 24 TO 3/3
B 25 TO 1/3
CN801 A1 METER (X) 8b → VR
CN801 A1 METER (G) 8a → VR,8
A1 + A2 MONITOR 26 TO 3/3
TAPE/EE CN302 ~ A2 TAPE/EE 7a → NR,3
C 27 TO 1/3
CN801 A2 PB VR (3) 4a → VR,801-4a
CN801 A2 PB VR (1) 3a → VR,801-3a
A2 PB VR (1) 3b → VR,801-3b
VR,801-4b → CN801 4b A2 PB VR (2)
NR,307-20a 20a A2 PB VR (X)
NR,307-19b 19b A2 PB VR (G)
NR,307-21a 21a NR OUT A2 PB (X)
NR,307-19b 19b NR OUT A2 PB (G)
AP,317-12c → CN301 18b A2 MONI (X)
AP,317-12ab AP,317-13abc CN301 18a A2 MONI (G)
CN301 A2 REC (X) 16c → AP,317-9c
A2 REC (G) 16b
A2 REC (G) 17b
A2 REC (G) 17c AP,317-9ab AP,317-10abc
A2 MONITOR (X) 28 TO 3/3
D 29 TO 1/3
CN801 A2 METER (X) 2b → VR,8C
CN801 A2 METER (G) 2a → VR,801
J913 W913 W914 J923 J924 W923 W924 W714

AU-88 BOARD **(2/3)**

BOARD NO. 1-621-100-11,12,13
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J) #10001-
BVH-3100(U/C) #10001-
BVH-3100PS; #10001-

AU-88 BOARD (1/4) (FOR A4)
Audio REC/PB Amplifier

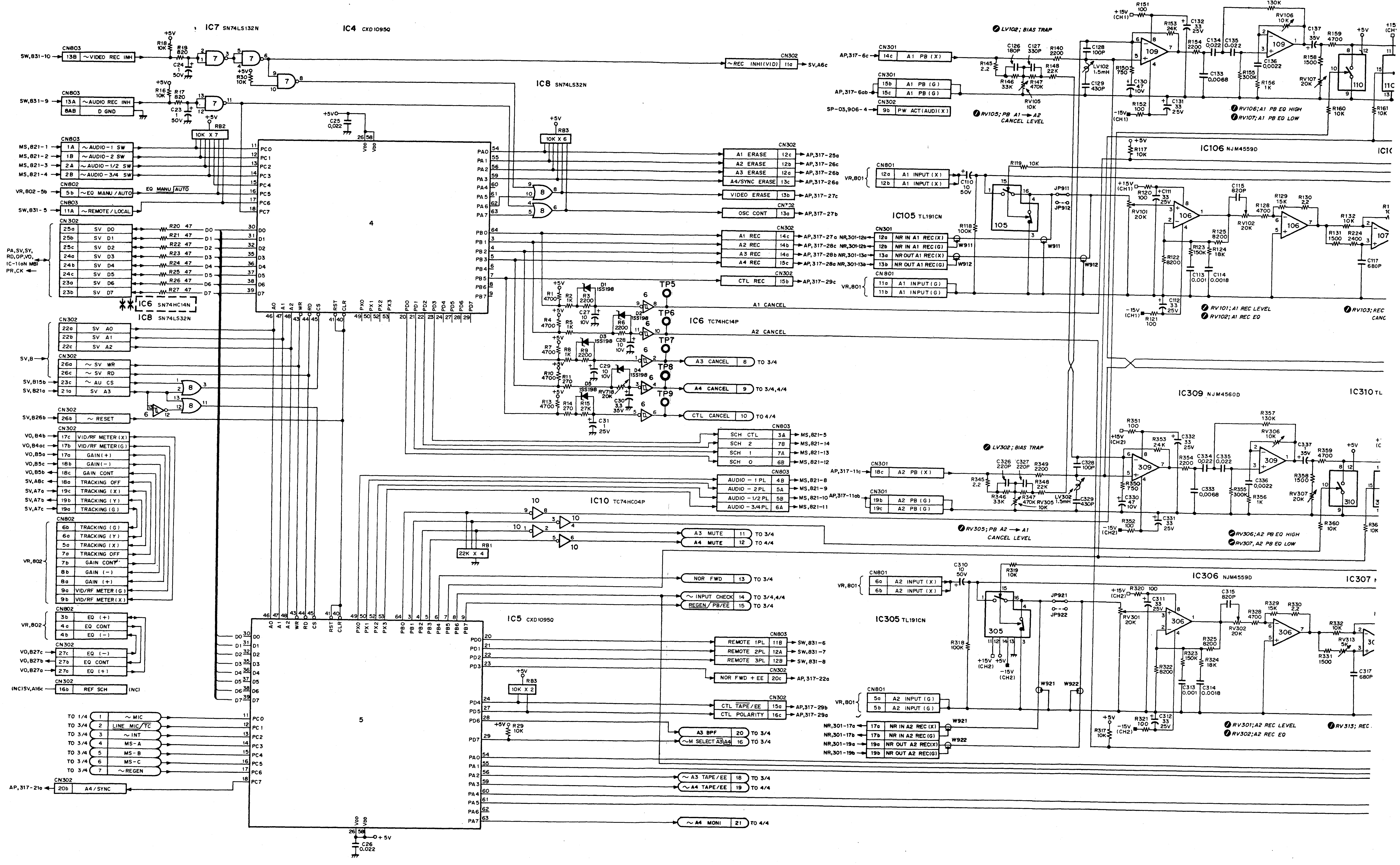

IC103 NE5532P
IC104 NJM4560D
IC303 NE5532P
IC304 NJM4560D
IC503 NE5532P
IC504 NJM4560D
IC505 TL191CN
IC703 NE5532P
IC704 NJM4560D
IC118 NJM4560D-X
IC318 NJM4560D-X
CN301
CN302
CN801
CN802
CN803
CN804
W101
W301
W501
W701
W702
W715
A1 LINE IN (Y)
A1 LINE IN (X)
A1 LINE IN (G)
A2 LINE IN (Y)
A2 LINE IN (X)
A2 LINE IN (G)
A3 LINE IN (Y)
A3 LINE IN (X)
A3 LINE IN (G)
A4 LINE IN (Y)
A4 LINE IN (X)
A4 LINE IN (G)
A1 LINE SIG (X)
A1 LINE SIG (G)
A2 LINE SIG (X)
A2 LINE SIG (G)
A3 REC VR (3)
A3 REC VR (1)
A3 REC VR (2)
A3/A4 LINE SIG (X)
A3/A4 LINE SIG (G)
VR,801
VR,806
VR,802
TP101
TP301
TP501
TP701
TP103
TP303
E101
E301
E501
E701
E103
E303
JP101
JP102
JP301
JP302
JP501
JP502
JP503
JP701
JP702
FROM 2/4
~MIC
TO 3/4
SP-03, 906-4
MA, 319-21a AP, A23c
PW ACT (AUD X)
PW ACT (G)
Q718 2SA872AE
Q719 2SC2458Y
Q720 2SC2458Y
D711, D712 1SS119
IC1 NJM78L15A
IC2 NJM79L15A
IC3 RC7815FA
IC101 RC7815FA
IC301 RC7815FA
IC501 RC7815FA
IC701 RC7815FA
IC102 RC7915FA
IC302 RC7915FA
IC502 RC7915FA
IC702 RC7915FA
+15V (INPUT AMP)
-15V (INPUT AMP)
+15V (RELAY)
+15V (CH1)
+15V (CH2)
+15V (CH3)
+15V (CH4)
-15V (CH1)
-15V (CH2)
-15V (CH3)
-15V (CH4)
+18V
-18V
A GND
D GND
+5V
-5V
SW, 831-1
SW, 831-2
SW, 831-4
L1
L2
L3
L4
RV112 ; A1 LINE OUT LEVEL
RV312 ; A2 LINE OUT LEVEL
Q101, Q102 2SA872AE
Q103 2SA872AE
Q104 2SC1162D
Q105 2SC1775E
Q106, Q107 2SC1775E
Q108 2SA715D
Q109, Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1162D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q117
Q301, Q302 2SA872AE
Q303 2SA872AE
Q305 2SC1775E
Q306, Q307 2SC1775E
Q308 2SA715D
Q309, Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1162D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
Q317
RY101
RY301
(RELAY)
+15V (RELAY)
**

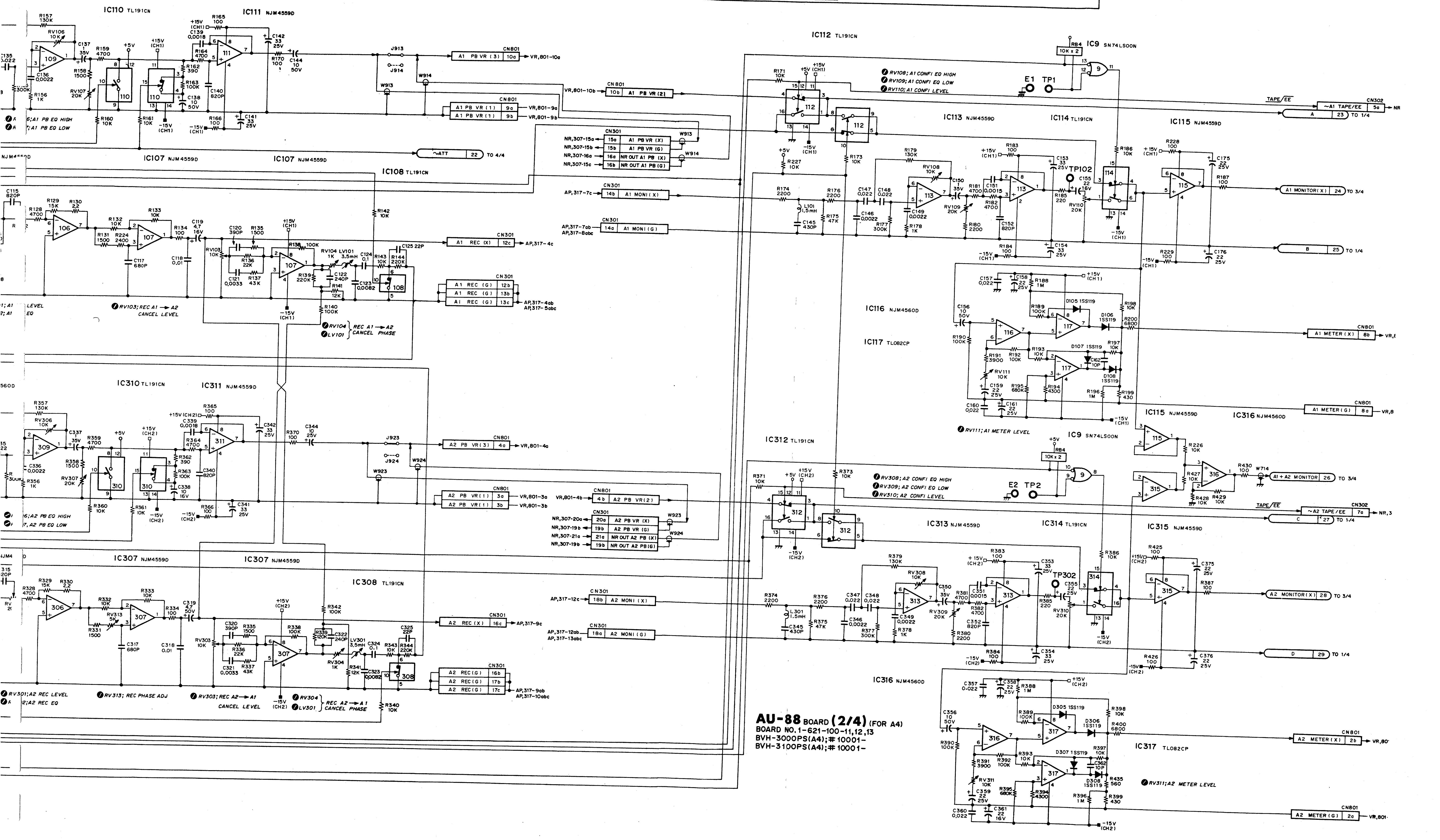

IC118 NJM4560D-X
Q101,Q102 2SA872AE
Q103 2SA872AE
Q104 2SC1162D
Q105 2SC1775E
Q106,Q107 2SC1775E
Q108 2SA715D
Q109,Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1162D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q116 2SA715D
Q117 DTC124ES
TP103
E103
RV112 ; A1 LINE OUT LEVEL
FROM 2/4 23 A
FROM 2/4 25 B
CN801
A1 LINE SIG(X) 19a
A1 LINE SIG(X) 19b
A1 LINE SIG(G) 18a
A1 LINE SIG(G) 18b
A2 LINE SIG(X) 17a
A2 LINE SIG(X) 17b
A2 LINE SIG(G) 16a
A2 LINE SIG(G) 16b
VR,801
CN301
A1 LINE OUT(X) 28c
A1 LINE OUT(Y) 28b
MA,319-5a
MA,319-5b
A1 LINE OUT(G) 28a
A1 LINE OUT(G) 29a
A1 LINE OUT(G) 29b
A1 LINE OUT(G) 29c
MA,319-7ab,9ab
W102
RY101
+15V(RELAY)
+18V
-18V
TP501
CN804
A3 REC VR(3) 3
A3 REC VR(1) 1
A3 REC VR(2) 2
VR,806
I 30 TO 3/4
J 31 TO 3/4
SP-03, 906-4
CN302
9b PW ACT(AUD)(X)
9c PW ACT (G)
MA, 319-21a
AP,A23c
W715
Q718 2SA872AE
Q719 2SC2458Y
Q720 2SC2458Y
D711,D712 1SS119
D713 1SS119
IC318 NJM4560D-X
Q301,Q302 2SA872AE
Q303 2SA872AE
Q304 2SC1162D
Q305 2SC1775E
Q306,Q307 2SC1775E
Q308 2SA715D
Q309,Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1162D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
Q316 2SA715D
Q317 DTC124ES
TP303
E303
RV312 ; A2 LINE OUT LEVEL
FROM 2/4 27 C
FROM 2/4 29 D
A3/A4 LINE SIG(X) 15a
A3/A4 LINE SIG(X) 15b
A3/A4 LINE SIG(G) 14a
A3/A4 LINE SIG(G) 14b
W302
RY301
A2 LINE OUT(X) 30c
A2 LINE OUT(Y) 30b
MA, 319-8a
MA, 319-8b
A2 LINE OUT(G) 30a
A2 LINE OUT(G) 31a
A2 LINE OUT(G) 31b
A2 LINE OUT(G) 31c
AP,317 -12ab, -13abc
IC701 RC7815FA
IC702 RC7915FA
+18V 21a
+18V 21b
CN803
+18V 9A
SW,831-1
A GND 22a
A GND 22b
A GND 9B
SW,831-2
-18V 20a
-18V 20b
-18V 10B
SW,831-4
+15V (CH4)
-15V (CH4)
CN802
+5V 2a
+5V 2b
D GND 1a
D GND 1b
VR,802
IC516 NJM4560D-X
Q506,Q507 2SA872AE
Q508 2SA872AE
Q509 2SC1162D
Q510 2SC1775E
Q511,Q512 2SC1775E
Q513 2SA715D
Q514,Q515 2SA872AE
Q516 2SA872AE
Q517 2SC1162D
Q518 2SC1775E
Q519 2SC1775E
Q520 2SC1775E
Q521 2SA715D
Q522 DTC124ES
TP509
E502
RV521 ; A3 LINE OUT LEVEL
FROM 3/4 32 E
FROM 3/4 33 F
W513
RY501
A3 LINE OUT(X) 2c
A3 LINE OUT(Y) 2b
MA,319-11a
MA,319-11b
A3 LINE OUT(G) 2a
A3 LINE OUT(G) 3a
A3 LINE OUT(G) 3b
A3 LINE OUT(G) 3c
MA,319-10ab,12ab
POP 52 TO 3/4
PW ACT(MA)(X) 9a
MA,319-21b
IC720 NJM4560D-X
Q701,Q702 2SA872AE
Q703 2SA872AE
Q704 2SC1162D
Q705 2SC1775E
Q706,Q707 2SC1775E
Q708 2SA715D
Q709,Q710 2SA872A
Q711 2SA872AE
Q712 2SC1162D
Q713 2SC1775E
Q714 2SC1775E
Q715 2SC1775E
Q716 2SA715D
Q717 DTC124ES
TP705
E702
RV717 ; A4 LINE OUT LEVEL
FROM 4/4 34 G
FROM 4/4 35 H
W711
RY701
A4 LINE OUT(X) 4c
A4 LINE OUT(Y) 4b
MA,319-14a
MA,319-14b
A4 LINE OUT(G) 4a
A4 LINE OUT(G) 5b
A4 LINE OUT(G) 5c
MA,319-13ab,15ab
PA(AUD) 3a
VR,802

AU-88 BOARD **(1/4)** (FOR A4)
BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4) ; #10001-
BVH-3100PS(A4) ; #10001-

AU-88 BOARD (2/4) (FOR A4)

Audio REC/PB Amplifier

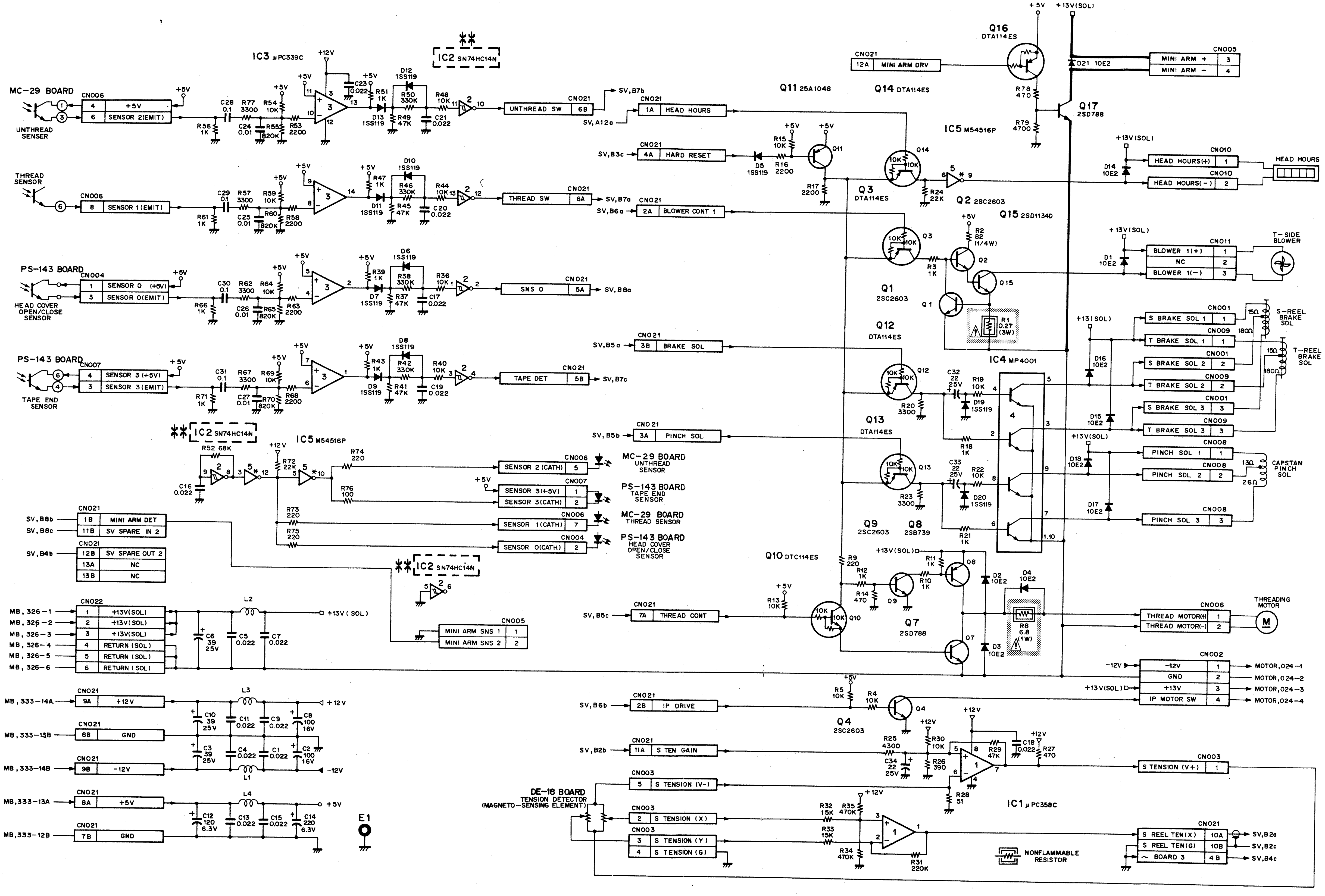

IC7 SN74LS132N
IC4 CXD1095Q
IC8 SN74LS32N
IC6 SN74HC14N
IC6 TC74HC14P
IC10 TC74HC04P
IC5 CXD1095Q
IC109 NJM4560D
IC110 TL191CN
IC106 NJM4559D
IC105 TL191CN
IC309 NJM4560D
IC310 TL
IC306 NJM4559D
IC305 TL191CN
IC307
CN803
CN802
CN302
CN301
CN801
~VIDEO REC INH
~AUDIO REC INH
D GND
~AUDIO-1 SW
~AUDIO-2 SW
~AUDIO-1/2 SW
~AUDIO-3/4 SW
~EQ MANU/AUTO
~REMOTE/LOCAL
SV D0
SV D1
SV D2
SV D3
SV D4
SV D5
SV D6
SV D7
SV A0
SV A1
SV A2
~SV WR
~SV RD
~AU CS
SV A3
~RESET
VID/RF METER (X)
VID/RF METER (G)
GAIN (+)
GAIN (-)
GAIN CONT
TRACKING OFF
TRACKING (X)
TRACKING (Y)
TRACKING (G)
EQ (+)
EQ CONT
EQ (-)
REF SCH
~MIC
LINE MIC/TC
~INT
MS-A
MS-B
MS-C
~REGEN
A4/SYNC
~REC INHI(VID)
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
VIDEO ERASE
OSC CONT
A1 REC
A2 REC
A3 REC
A4 REC
CTL REC
A1 CANCEL
A2 CANCEL
A3 CANCEL
A4 CANCEL
CTL CANCEL
SCH CTL
SCH 2
SCH 1
SCH 0
AUDIO-1PL
AUDIO-2PL
AUDIO-1/2PL
AUDIO-3/4PL
A3 MUTE
A4 MUTE
NOR FWD
~INPUT CHECK
REGEN/PB/EE
REMOTE 1PL
REMOTE 2PL
REMOTE 3PL
NOR FWD + EE
CTL TAPE/EE
CTL POLARITY
A3 BPF
~M SELECT A3/A4
~A3 TAPE/EE
~A4 TAPE/EE
~A4 MONI
TO 3/4
TO 4/4
TO 3/4,4/4
TP5
TP6
TP7
TP8
TP9
A1 PB (X)
A1 PB (G)
PW ACT(AUD)(X)
A1 INPUT (X)
A1 INPUT (G)
NR IN A1 REC(X)
NR IN A1 REC(G)
NR OUT A1 REC(X)
NR OUT A1 REC(G)
A2 PB (X)
A2 PB (G)
A2 INPUT (X)
A2 INPUT (G)
NR IN A2 REC(X)
NR IN A2 REC(G)
NR OUT A2 REC(X)
NR OUT A2 REC(G)
LV102; BIAS TRAP
RV105; PB A1 → A2 CANCEL LEVEL
RV106; A1 PB EQ HIGH
RV107; A1 PB EQ LOW
RV101; A1 REC LEVEL
RV102; A1 REC EQ
RV103; REC
LV302; BIAS TRAP
RV305; PB A2 → A1 CANCEL LEVEL
RV306; A2 PB EQ HIGH
RV307; A2 PB EQ LOW
RV301; A2 REC LEVEL
RV302; A2 REC EQ
RV313; REC


IC110 TL191CN
IC111 NJM4559D
IC107 NJM4559D
IC108 TL191CN
IC112 TL191CN
IC9 SN74LS00N
IC113 NJM4559D
IC114 TL191CN
IC115 NJM4559D
IC116 NJM4560D
IC117 TL082CP
IC310 TL191CN
IC311 NJM4559D
IC307 NJM4559D
IC308 TL191CN
IC312 TL191CN
IC313 NJM4559D
IC314 TL191CN
IC315 NJM4559D
IC316 NJM4560D
IC317 TL082CP
E1 TP1
E2 TP2
TP102
TP302
A1 PB VR (3) 10a
A1 PB VR (2) 10b
A1 PB VR (1) 9a
A1 PB VR (1) 9b
~ATT 22 TO 4/4
A1 PB VR (X) 15a
A1 PB VR (G) 15b
NR OUT A1 PB (X) 16a
NR OUT A1 PB (G) 16b
A1 MONI (X) 14b
A1 MONI (G) 14a
A1 REC (X) 12c
A1 REC (G) 12b
A1 REC (G) 13b
A1 REC (G) 13c
~A1 TAPE/EE 5a
A 23 TO 1/4
A1 MONITOR(X) 24 TO 3/4
B 25 TO 1/4
A1 METER (X) 8b
A1 METER (G) 8a
A1+A2 MONITOR 26 TO 3/4
~A2 TAPE/EE 7a
C 27 TO 1/4
A2 PB VR(3) 4a
A2 PB VR(2) 4b
A2 PB VR(1) 3a
A2 PB VR(1) 3b
A2 PB VR (X) 20a
A2 PB VR (G) 19b
NR OUT A2 PB (X) 21a
NR OUT A2 PB (G) 19b
A2 MONI (X) 18b
A2 MONI (G) 18a
A2 REC (X) 16c
A2 REC(G) 16b
A2 REC(G) 17b
A2 REC(G) 17c
A2 MONITOR(X) 28 TO 3/4
D 29 TO 1/4
A2 METER (X) 2b
A2 METER (G) 2a
RV108; A1 CONFI EQ HIGH
RV109; A1 CONFI EQ LOW
RV110; A1 CONFI LEVEL
RV308; A2 CONFI EQ HIGH
RV309; A2 CONFI EQ LOW
RV310; A2 CONFI LEVEL
RV111; A1 METER LEVEL
RV311; A2 METER LEVEL
RV103; REC A1 → A2 CANCEL LEVEL
RV104 LV101 REC A1 → A2 CANCEL PHASE
RV301; A2 REC LEVEL
RV313; REC PHASE ADJ
RV303; REC A2 → A1 CANCEL LEVEL
RV304 LV301 REC A2 → A1 CANCEL PHASE
A1 PB EQ HIGH
A1 PB EQ LOW
A2 PB EQ HIGH
A2 PB EQ LOW
TAPE/EE

AU-88 BOARD **(2/4)** (FOR A4)
BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4);#10001-
BVH-3100PS(A4);#10001-

DS-19 BOARD

TTP Aux


IC3 μPC339C
IC2 SN74HC14N
MC-29 BOARD
CN006
+5V
SENSOR 2(EMIT)
UNTHREAD SENSER
UNTHREAD SW
CN021
6B
SV, B7b
SV, A12a
THREAD SENSOR
SENSOR 1(EMIT)
THREAD SW
6A
SV, B7a
PS-143 BOARD
CN004
SENSOR 0 (+5V)
SENSOR 0(EMIT)
HEAD COVER OPEN/CLOSE SENSOR
SNS 0
5A
SV, B8a
CN007
SENSOR 3 (+5V)
SENSOR 3 (EMIT)
TAPE END SENSOR
TAPE DET
5B
SV, B7c
IC5 M54516P
SENSOR 2 (CATH)
SENSOR 3(+5V)
SENSOR 3(CATH)
SENSOR 1(CATH)
SENSOR 0(CATH)
MC-29 BOARD UNTHREAD SENSOR
PS-143 BOARD TAPE END SENSOR
MC-29 BOARD THREAD SENSOR
PS-143 BOARD HEAD COVER OPEN/CLOSE SENSOR
SV, B8b
SV, B8c
SV, B4b
MINI ARM DET
SV SPARE IN 2
SV SPARE OUT 2
NC
CN005
MINI ARM SNS 1
MINI ARM SNS 2
CN022
MB, 326-1
MB, 326-2
MB, 326-3
MB, 326-4
MB, 326-5
MB, 326-6
+13V(SOL)
RETURN (SOL)
MB, 333-14A
MB, 333-13B
MB, 333-14B
MB, 333-13A
MB, 333-12B
+12V
GND
-12V
+5V
E1
Q11 2SA1048
Q14 DTA114ES
Q16 DTA114ES
Q17 2SD788
MINI ARM DRV
12A
MINI ARM +
MINI ARM −
D21 10E2
HEAD HOURS
1A
HARD RESET
4A
SV, B3c
IC5 M54516P
Q3 DTA114ES
Q2 2SC2603
Q15 2SD1134D
BLOWER CONT 1
2A
SV, B6a
CN010
HEAD HOURS(+)
HEAD HOURS(−)
CN011
BLOWER 1(+)
BLOWER 1(−)
T-SIDE BLOWER
Q1 2SC2603
R1 0.27 (3W)
Q12 DTA114ES
BRAKE SOL
3B
SV, B5a
IC4 MP4001
CN001
CN009
S BRAKE SOL 1
T BRAKE SOL 1
S BRAKE SOL 2
T BRAKE SOL 2
S BRAKE SOL 3
T BRAKE SOL 3
S-REEL BRAKE SOL
T-REEL BRAKE SOL
Q13 DTA114ES
PINCH SOL
3A
SV, B5b
CN008
PINCH SOL 1
PINCH SOL 2
PINCH SOL 3
CAPSTAN PINCH SOL
Q9 2SC2603
Q8 2SB739
Q10 DTC114ES
Q7 2SD788
THREAD CONT
7A
SV, B5c
R8 6.8 (1W)
THREAD MOTOR(+)
THREAD MOTOR(−)
THREADING MOTOR
CN002
MOTOR, 024-1
MOTOR, 024-2
MOTOR, 024-3
MOTOR, 024-4
+13V
IP MOTOR SW
IP DRIVE
2B
SV, B6b
Q4 2SC2603
S TEN GAIN
11A
SV, B2b
CN003
S TENSION (V+)
DE-18 BOARD TENSION DETECTOR (MAGNETO-SENSING ELEMENT)
S TENSION (V-)
S TENSION (X)
S TENSION (Y)
S TENSION (G)
IC1 μPC358C
S REEL TEN(X)
S REEL TEN(G)
~ BOARD 3
10A
10B
4B
SV, B2a
SV, B2c
SV, B4c
NONFLAMMABLE RESISTOR

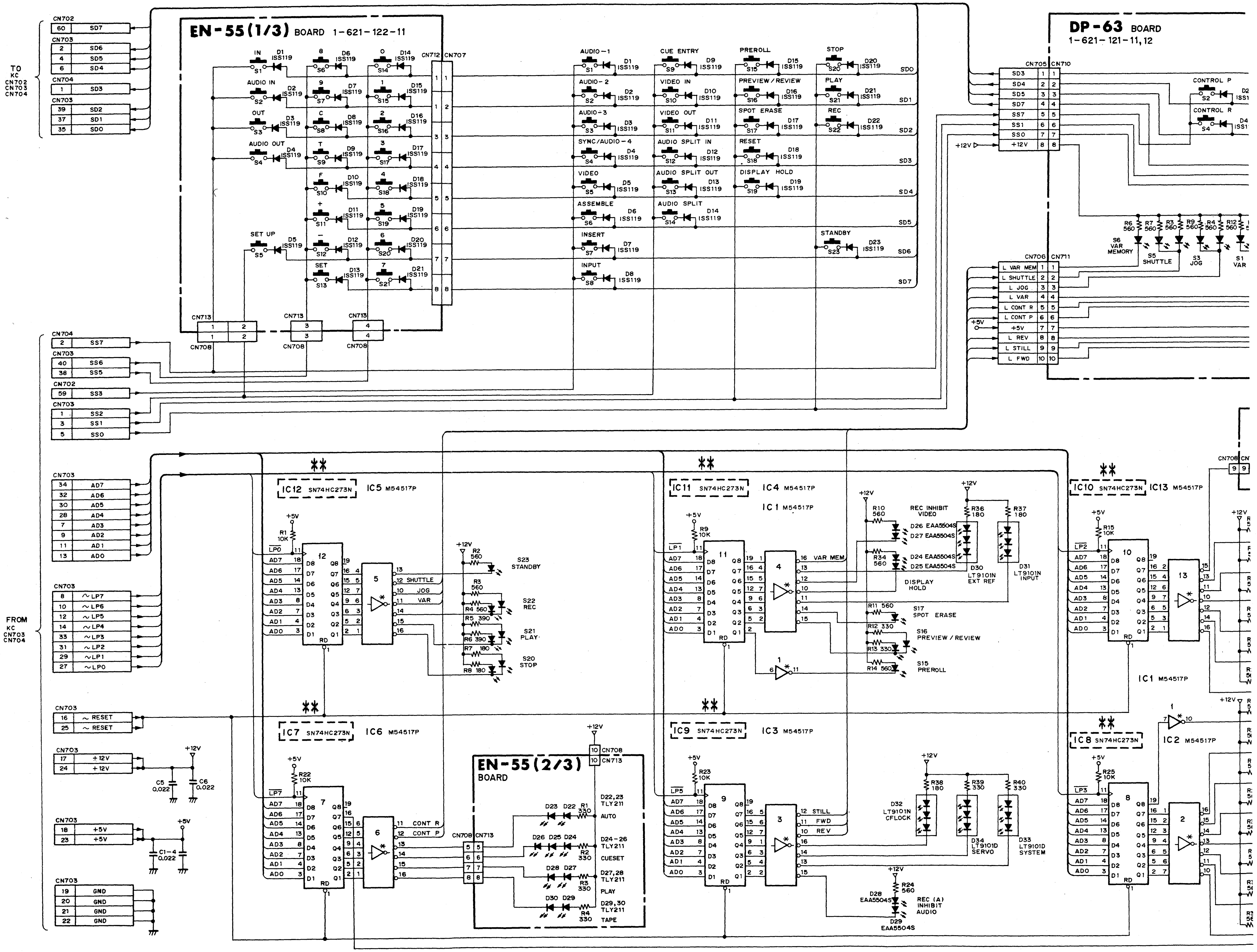
DS-19 BOARD

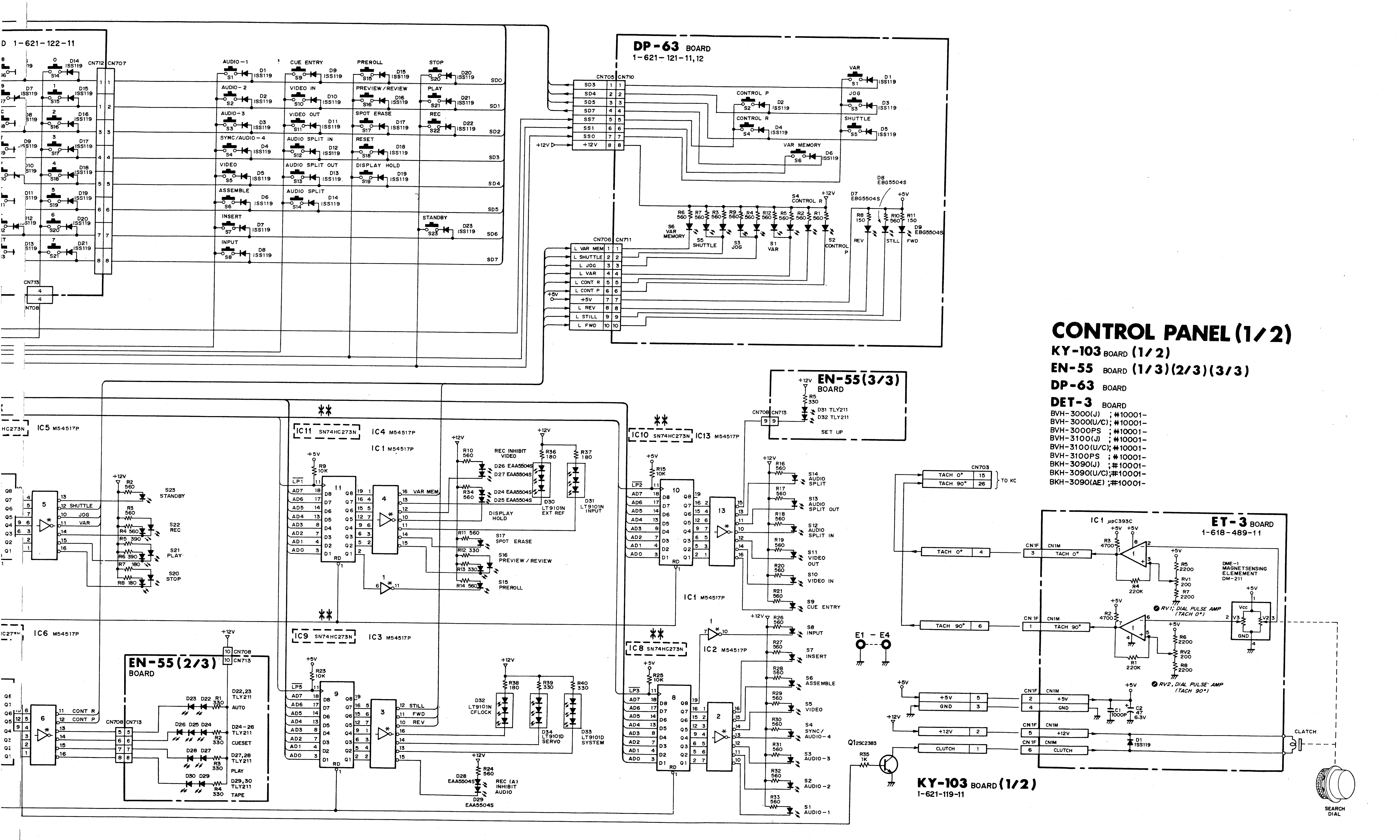
BOARD NO.1-621-117-11,12,13

BVH-3000(J);	#10001-
BVH-3000(U/C);	#10001-
BVH-3000PS;	#10001-
BVH-3100(J)	#10001-
BVH-3100(U/C);	#10001-
BVH-3100PS;	#10001-

FUNCTION CONTROL PANEL(1/2)

DET-3 BOARD : Search Dial Amplifier
DP-63 BOARD : Sub Key
EN-55 BOARD : Entry Key
KY-103 BOARD : Main Key


EN-55(1/3) BOARD 1-621-122-11
DP-63 BOARD 1-621-121-11,12
EN-55(2/3) BOARD
TO KC CN702 CN703 CN704
FROM KC CN703 CN704
CN702
CN703
CN704
CN705
CN706
CN707
CN708
CN710
CN711
CN712
CN713
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
SS0
SS1
SS2
SS5
SS6
SS7
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
~LP0
~LP1
~LP2
~LP3
~LP4
~LP5
~LP6
~LP7
~RESET
+12V
+5V
GND
IN
AUDIO IN
OUT
AUDIO OUT
SET UP
SET
AUDIO-1
AUDIO-2
AUDIO-3
SYNC/AUDIO-4
VIDEO
ASSEMBLE
INSERT
INPUT
CUE ENTRY
VIDEO IN
VIDEO OUT
AUDIO SPLIT IN
AUDIO SPLIT OUT
AUDIO SPLIT
PREROLL
PREVIEW/REVIEW
SPOT ERASE
RESET
DISPLAY HOLD
STOP
PLAY
REC
STANDBY
CONTROL P
CONTROL R
VAR MEMORY
SHUTTLE
JOG
VAR
L VAR MEM
L SHUTTLE
L JOG
L VAR
L CONT R
L CONT P
L REV
L STILL
L FWD
1SS119
IC12 SN74HC273N
IC5 M54517P
IC7 SN74HC273N
IC6 M54517P
IC11 SN74HC273N
IC4 M54517P
IC1 M54517P
IC9 SN74HC273N
IC3 M54517P
IC10 SN74HC273N
IC13 M54517P
IC8 SN74HC273N
IC2 M54517P
S23 STANDBY
S22 REC
S21 PLAY
S20 STOP
S17 SPOT ERASE
S16 PREVIEW/REVIEW
S15 PREROLL
REC INHIBIT VIDEO
D26 EAA5504S
D27 EAA5504S
D24 EAA5504S
D25 EAA5504S
D30 LT9101N EXT REF
D31 LT9101N INPUT
DISPLAY HOLD
VAR MEM
CONT R
CONT P
STILL
FWD
REV
D32 LT9101N CFLOCK
D34 LT9101D SERVO
D33 LT9101D SYSTEM
D28 EAA5504S
D29 EAA5504S
REC (A) INHIBIT AUDIO
D22,23 TLY211 AUTO
D24-26 TLY211 CUESET
D27,28 TLY211 PLAY
D29,30 TLY211 TAPE
C5 0.022
C6 0.022
C1-4 0.022


1-621-122-11
CN712
CN707
CN713
N708
AUDIO-1
AUDIO-2
AUDIO-3
SYNC/AUDIO-4
VIDEO
ASSEMBLE
INSERT
INPUT
CUE ENTRY
VIDEO IN
VIDEO OUT
AUDIO SPLIT IN
AUDIO SPLIT OUT
AUDIO SPLIT
PREROLL
PREVIEW/REVIEW
SPOT ERASE
RESET
DISPLAY HOLD
STOP
PLAY
REC
STANDBY
ISS119
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
DP-63 BOARD
1-621-121-11,12
CN705
CN710
CN706
CN711
SS7
SS1
SS0
+12V
VAR
JOG
SHUTTLE
CONTROL P
CONTROL R
VAR MEMORY
EBG5504S
REV
STILL
FWD
L VAR MEM
L SHUTTLE
L JOG
L VAR
L CONT R
L CONT P
+5V
L REV
L STILL
L FWD
EN-55(3/3) BOARD
CN708
CN713
D31 TLY211
D32 TLY211
SET UP
IC5 M54517P
IC11 SN74HC273N
IC4 M54517P
IC1 M54517P
IC10 SN74HC273N
IC13 M54517P
IC6 M54517P
IC9 SN74HC273N
IC3 M54517P
IC8 SN74HC273N
IC2 M54517P
S23 STANDBY
S22 REC
S21 PLAY
S20 STOP
SHUTTLE
JOG
VAR
VAR MEM
REC INHIBIT VIDEO
D26 EAA5504S
D27 EAA5504S
D24 EAA5504S
D25 EAA5504S
DISPLAY HOLD
D30 LT9101N EXT REF
D31 LT9101N INPUT
S17 SPOT ERASE
S16 PREVIEW/REVIEW
S15 PREROLL
S14 AUDIO SPLIT
S13 AUDIO SPLIT OUT
S12 AUDIO SPLIT IN
S11 VIDEO OUT
S10 VIDEO IN
S9 CUE ENTRY
S8 INPUT
S7 INSERT
S6 ASSEMBLE
S5 VIDEO
S4 SYNC/AUDIO-4
S3 AUDIO-3
S2 AUDIO-2
S1 AUDIO-1
EN-55(2/3) BOARD
CONT R
CONT P
D22,23 TLY211
AUTO
D24-26 TLY211
CUESET
D27,28 TLY211
PLAY
D29,30 TLY211
TAPE
STILL
FWD
REV
D32 LT9101N CFLOCK
D34 LT9101D SERVO
D33 LT9101D SYSTEM
D28 EAA5504S
D29 EAA5504S
REC (A) INHIBIT AUDIO
E1 - E4
Q1 2SC2383
KY-103 BOARD (1/2)
1-621-119-11
CN703
TACH 0°
TACH 90°
TO KC
ET-3 BOARD
1-618-489-11
IC1 μPC393C
CN1F
CN1M
DME-1 MAGNETSENSING ELEMENT DM-211
RV1; DIAL PULSE AMP (TACH 0°)
RV2, DIAL PULSE AMP (TACH 90°)
GND
CLUTCH
D1 ISS119
SEARCH DIAL

CONTROL PANEL (1/2)

KY-103 BOARD (1/2)

EN-55 BOARD (1/3)(2/3)(3/3)

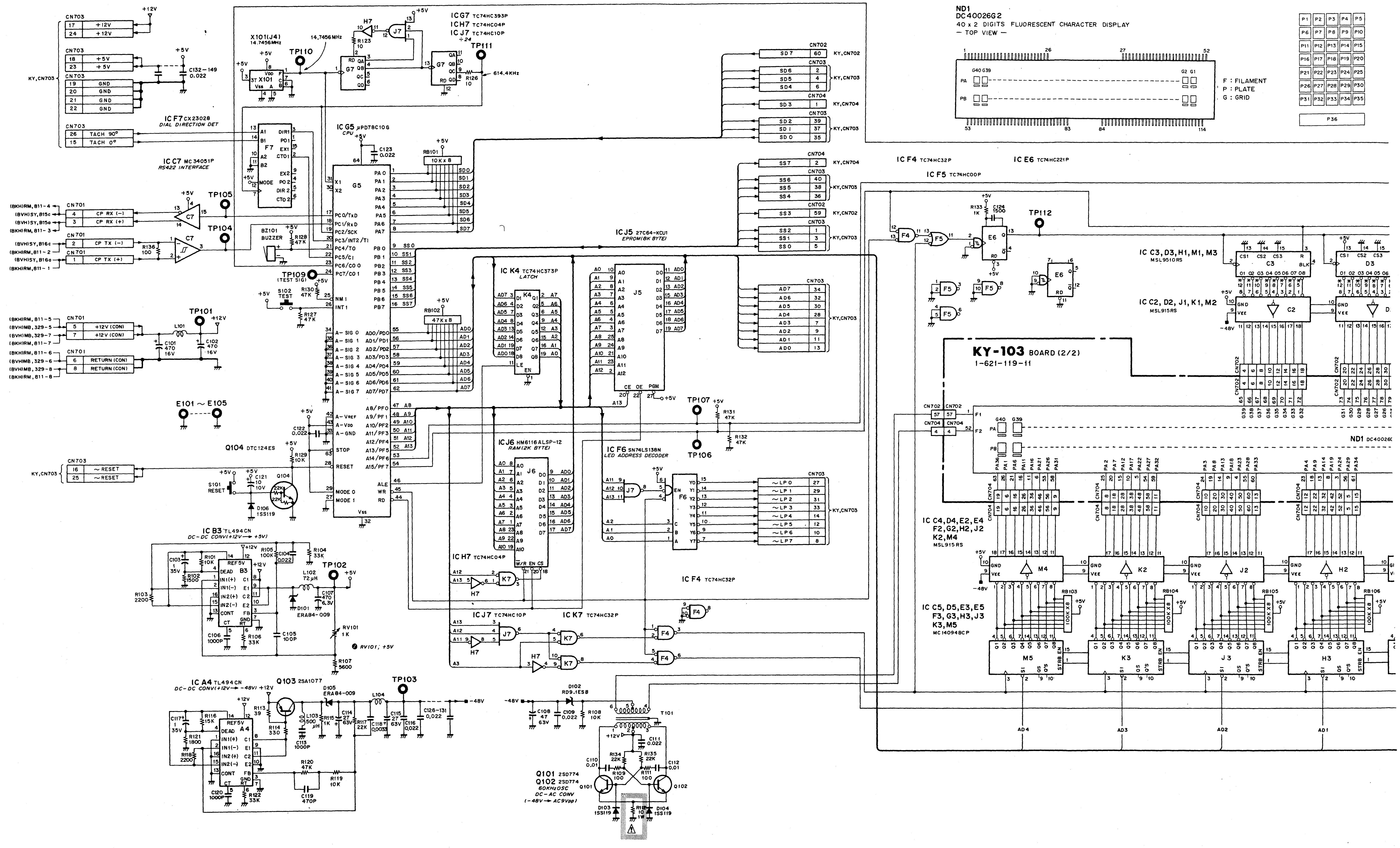
DP-63 BOARD

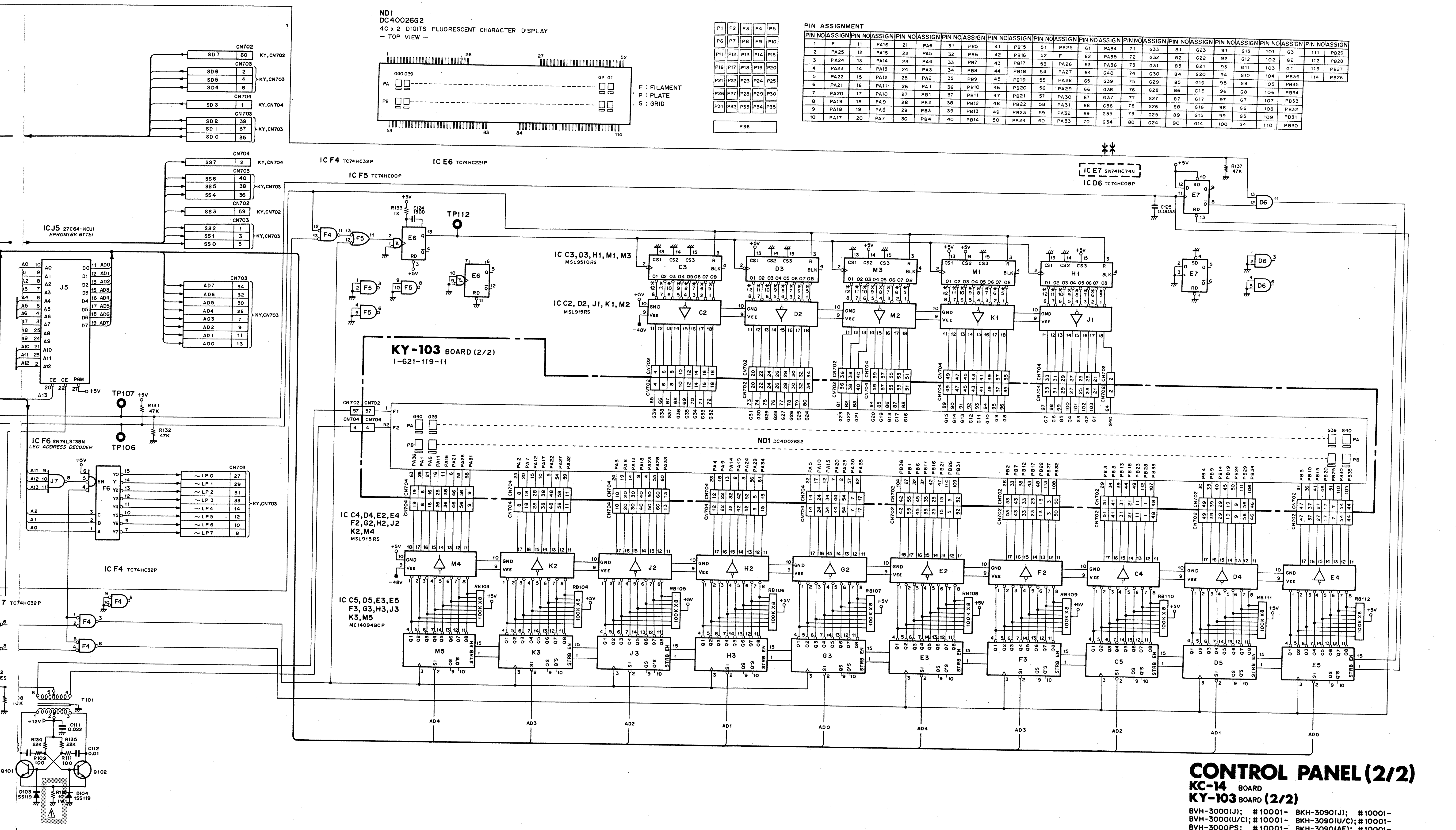
DET-3 BOARD

BVH-3000(J) ; #10001-
BVH-3000(U/C); #10001-
BVH-3000PS ; #10001-
BVH-3100(J) ; #10001-
BVH-3100(U/C); #10001-
BVH-3100PS ; #10001-
BKH-3090(J) ; #10001-
BKH-3090(U/C); #10001-
BKH-3090(AE) ; #10001-

FUNCTION CONTROL PANEL(2/2)

KC-14 BOARD : Key Control


CN703
CN701
KY,CN703
X101(J4) 14.7456MHz
TP110
TP111
IC G7 TC74HC393P
IC H7 TC74HC04P
IC J7 TC74HC10P
614.4KHz
IC F7 CX23028 DIAL DIRECTION DET
IC G5 μPD78C10G CPU
IC C7 MC34051P RS422 INTERFACE
TP105
TP104
BZ101 BUZZER
TP109 (TEST SIG)
S102 TEST
TP101
E101 ~ E105
Q104 DTC124ES
S101 RESET
D106 1SS119
RB101 10K×8
RB102 47K×8
IC K4 TC74HC373P LATCH
IC J5 27C64-KCU1 EPROM(8K BYTE)
IC J6 HM6116ALSP-12 RAM(2K BYTE)
IC F6 SN74LS138N LED ADDRESS DECODER
TP107
TP106
IC H7 TC74HC04P
IC J7 TC74HC10P
IC K7 TC74HC32P
IC F4 TC74HC32P
IC B3 TL494CN DC-DC CONV(+12V → +5V)
TP102
L102 72μH
D101 ERA84-009
RV101 1K
RV101; +5V
IC A4 TL494CN DC-DC CONV(+12V → -48V)
Q103 2SA1077
D105 ERA84-009
TP103
-48V
D102 RD9.1ESB
T101
Q101 2SD774
Q102 2SD774 60KHz OSC DC-AC CONV (-48V → AC9Vpp)
D103 1SS119
D104 1SS119
ND1 DC40026G2
40 x 2 DIGITS FLUORESCENT CHARACTER DISPLAY
— TOP VIEW —
F : FILAMENT
P : PLATE
G : GRID
IC F4 TC74HC32P
IC E6 TC74HC221P
IC F5 TC74HC00P
TP112
IC C3, D3, H1, M1, M3 MSL9510RS
IC C2, D2, J1, K1, M2 MSL915RS
KY-103 BOARD (2/2)
1-621-119-11
IC C4, D4, E2, E4 F2, G2, H2, J2 K2, M4 MSL915RS
IC C5, D5, E3, E5 F3, G3, H3, J3 K3, M5 MC14094BCP
RB103
RB104
RB105
RB106
AD4
AD3
AD2
AD1


ND1
DC40026G2
40 x 2 DIGITS FLUORESCENT CHARACTER DISPLAY
— TOP VIEW —
F : FILAMENT
P : PLATE
G : GRID
P36
IC J5 27C64-KCU1
EPROM(8K BYTE)
IC F4 TC74HC32P
IC F5 TC74HC00P
IC E6 TC74HC221P
IC E7 SN74HC74N
IC D6 TC74HC08P
IC F6 SN74LS138N
LED ADDRESS DECODER
IC C3, D3, H1, M1, M3
MSL9510RS
IC C2, D2, J1, K1, M2
MSL915RS
IC C4, D4, E2, E4
F2, G2, H2, J2
K2, M4
MSL915RS
IC C5, D5, E3, E5
F3, G3, H3, J3
K3, M5
MC14094BCP
KY-103 BOARD (2/2)
1-621-119-11
TP112
TP107
TP106
T101
Q101
Q102
ND1 DC40026G2
AD4
AD3
AD2
AD1
AD0

PIN ASSIGNMENT

PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN
1	F	11	PA16	21	PA6	31	PB5	41	PB15	51	PB25	61	PA34	71	G33	81	G23	91	G13	101	G3	111	PB29
2	PA25	12	PA15	22	PA5	32	PB6	42	PB16	52	F	62	PA35	72	G32	82	G22	92	G12	102	G2	112	PB28
3	PA24	13	PA14	23	PA4	33	PB7	43	PB17	53	PA26	63	PA36	73	G31	83	G21	93	G11	103	G1	113	PB27
4	PA23	14	PA13	24	PA3	34	PB8	44	PB18	54	PA27	64	G40	74	G30	84	G20	94	G10	104	PB36	114	PB26
5	PA22	15	PA12	25	PA2	35	PB9	45	PB19	55	PA28	65	G39	75	G29	85	G19	95	G9	105	PB35		
6	PA21	16	PA11	26	PA1	36	PB10	46	PB20	56	PA29	66	G38	76	G28	86	G18	96	G8	106	PB34		
7	PA20	17	PA10	27	PB1	37	PB11	47	PB21	57	PA30	67	G37	77	G27	87	G17	97	G7	107	PB33		
8	PA19	18	PA9	28	PB2	38	PB12	48	PB22	58	PA31	68	G36	78	G26	88	G16	98	G6	108	PB32		
9	PA18	19	PA8	29	PB3	39	PB13	49	PB23	59	PA32	69	G35	79	G25	89	G15	99	G5	109	PB31		
10	PA17	20	PA7	30	PB4	40	PB14	50	PB24	60	PA33	70	G34	80	G24	90	G14	100	G4	110	PB30		

CONTROL PANEL (2/2)

KC-14 BOARD
KY-103 BOARD **(2/2)**

BVH-3000(J); #10001- BKH-3090(J); #10001-
BVH-3000(U/C); #10001- BKH-3090(U/C); #10001-
BVH-3000PS; #10001- BKH-3090(AE); #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

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HD74LS139P......C-30
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HD74LS153P......C-30
HD74LS155P......C-30
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HD74LS174P......C-31

HD74LS175P......C-31
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HD74LS245P......C-32
HD74LS273P......C-31

HD74LS283P......C-31
HD74LS290P......C-31
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MC14094BCP......C-42

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MC74HC11N.......C-37
MC74HC14N.......C-37
MC74HC32N.......C-37

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MC74HC86N.......C-37
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MC74HC257N......C-40

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SN74HC367N......C-40
SN74HC368N......C-40

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SN74LS175N......C-31
SN74LS189AN.....C-45
SN74LS191N......C-31
SN74LS221N......C-32

SN74LS273N......C-31
SN74LS283N......C-31
SN74LS290N......C-31
SN74LS373N......C-32
SN74LS374N......C-32

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TC74HC368P......C-40
TC74HC373P......C-40
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TC74HC573P......C-45
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uA723CN.........C-50

uA723DC.........C-50
uPC311C.........C-50
uPC319C.........C-50
uPC339C.........C-35
uPC358C.........C-50

uPC393C.........C-44
uPC648C.........C-50
uPC649C.........C-50
uPC1037H........C-50
uPC1037HA.......C-50

uPC1663C........C-50
uPC4082C........C-47
uPC4557C........C-50
uPC4558C........C-44
uPC78L??........C-50
uPC78M??H.......C-49

TYPE PAGE

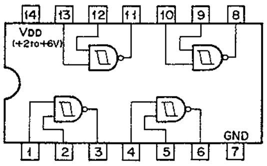
uPC78??H........C-49
uPC79??H........C-49
uPD41102C.......C-51
uPD6142C........C-52
uPD70108D.......C-23

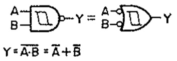
uPD71054C.......C-25
uPD71059C.......C-25
uPD7201AC.......C-52
uPD7201AD.......C-52
uPD74HC221AC....C-47

uPD78C10G.......C-51
U05E............C-5
U05G............C-5
V06C............C-5
V09G............C-5

X2212P..........C-53

MC74HC132N (MOTOROLA)
TC74HC132P (TOSHIBA)
C-MOS 2-INPUT NAND SCHMITT TRIGGER
— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+2 to +6V)
GND
1
2
3
4
5
6
7

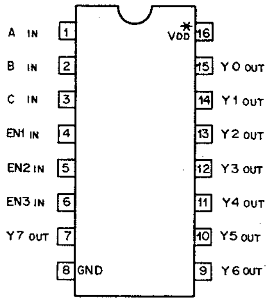


$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

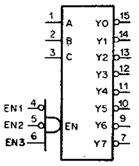
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

MC74HC138N (MOTOROLA)
SN74HC138N (TI)
TC74HC138P (TOSHIBA)
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
— TOP VIEW —


A IN 1
B IN 2
C IN 3
EN1 IN 4
EN2 IN 5
EN3 IN 6
Y7 OUT 7
8 GND
✱
VDD 16
15 Y0 OUT
14 Y1 OUT
13 Y2 OUT
12 Y3 OUT
11 Y4 OUT
10 Y5 OUT
9 Y6 OUT

✱ VDD HC; +2 to +6V
HCT; +5V

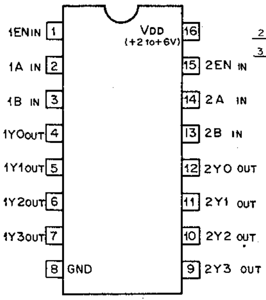

1 A
2 B
3 C
EN1 4
EN2 5
EN3 6
EN
Y0 15
Y1 14
Y2 13
Y3 12
Y4 11
Y5 10
Y6 9
Y7 7

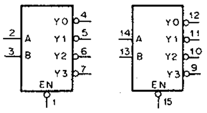
INPUT				OUTPUT							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

$EN = \overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC139N (MOTOROLA)
SN74HC139N (TI)
TC74HC139P (TOSHIBA)
C-MOS 1-OF-4 DECODER/DEMULTIPLEXER
— TOP VIEW —

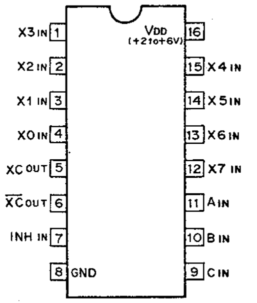

1EN IN 1
1A IN 2
1B IN 3
1Y0 OUT 4
1Y1 OUT 5
1Y2 OUT 6
1Y3 OUT 7
8 GND
VDD
(+2 to +6V)
16
15 2EN IN
14 2A IN
13 2B IN
12 2Y0 OUT
11 2Y1 OUT
10 2Y2 OUT
9 2Y3 OUT

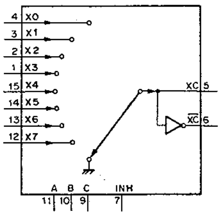

2 A
3 B
EN
1
Y0 4
Y1 5
Y2 6
Y3 7
14 A
13 B
EN
15
Y0 12
Y1 11
Y2 10
Y3 9

INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC151N (MOTOROLA)
SN74HC151N (TI)
TC74HC151P (TOSHIBA)
C-MOS 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

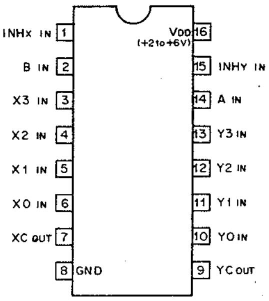

X3 IN 1
X2 IN 2
X1 IN 3
X0 IN 4
XC OUT 5
XC OUT 6
INH IN 7
8 GND
VDD
(+2 to +6V)
16
15 X4 IN
14 X5 IN
13 X6 IN
12 X7 IN
11 A IN
10 B IN
9 C IN

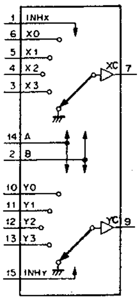

4 X0
3 X1
2 X2
1 X3
15 X4
14 X5
13 X6
12 X7
XC 5
XC 6
A B C
INH
11 10 9
7

CONTROL INPUT				ON CHANNEL
INH	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC153N (MOTOROLA)
SN74HC153N (TI)
TC74HC153P (TOSHIBA)
C-MOS 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

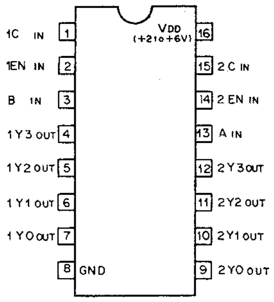

INHx IN 1
B IN 2
X3 IN 3
X2 IN 4
X1 IN 5
X0 IN 6
XC OUT 7
8 GND
VDD
(+2 to +6V)
16
15 INHY IN
14 A IN
13 Y3 IN
12 Y2 IN
11 Y1 IN
10 Y0 IN
9 YC OUT


1 INHX
6 X0
5 X1
4 X2
3 X3
XC 7
14 A
2 B
10 Y0
11 Y1
12 Y2
13 Y3
YC 9
15 INHY

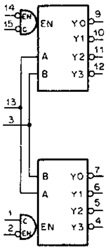
CONTROL IN			ON CHANNEL
INH	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC155P (TOSHIBA)
✱✱TC74HC155AP (TOSHIBA)
TTL DUAL 2-TO-4-LINE DECODER/3-TO-8-LINE DECODER
- TOP VIEW -


1C IN 1
1EN IN 2
B IN 3
1Y3 OUT 4
1Y2 OUT 5
1Y1 OUT 6
1Y0 OUT 7
8 GND
VDD
(+2 to +6V)
16
15 2C IN
14 2EN IN
13 A IN
12 2Y3 OUT
11 2Y2 OUT
10 2Y1 OUT
9 2Y0 OUT

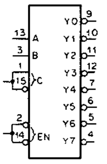
DUAL 2-TO-4-LINE DECODER


14
15
EN
C
A
B
Y0 9
Y1 10
Y2 11
Y3 12
13
3
B
A
1
2
C
EN
EN
Y0 7
Y1 6
Y2 5
Y3 4

INPUTS				OUTPUTS			
EN	C	B	A	Y3	Y2	Y1	Y0
0	0	0	0	1	1	1	0
0	0	0	1	1	1	0	1
0	0	1	0	1	0	1	1
0	0	1	1	0	1	1	1
X	1	X	X	1	1	1	1
1	X	X	X	1	1	1	1

EN	C	B	A	Y3	Y2	Y1	Y0
0	1	0	0	1	1	1	0
0	1	0	1	1	1	0	1
0	1	1	0	1	0	1	1
0	1	1	1	0	1	1	1
X	0	X	X	1	1	1	1
1	X	X	X	1	1	1	1

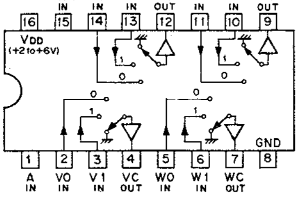
3-TO-8-LINE DECODER

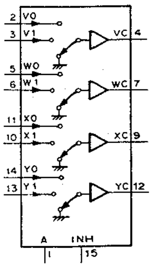

13 A
3 B
1
15 C
2
14 EN
Y0 9
Y1 10
Y2 11
Y3 12
Y4 7
Y5 6
Y6 5
Y7 4

INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	0	0	0	1	1	1	1	1	1	1	0
0	0	0	1	1	1	1	1	1	1	0	1
0	0	1	0	1	1	1	1	1	0	1	1
0	0	1	1	1	1	1	1	0	1	1	1
0	1	0	0	1	1	1	0	1	1	1	1
0	1	0	1	1	1	0	1	1	1	1	1
0	1	1	0	1	0	1	1	1	1	1	1
0	1	1	1	0	1	1	1	1	1	1	1
1	X	X	X	1	1	1	1	1	1	1	1

0;LOW LEVEL 1;HIGH LEVEL X;DON'T CARE

MC74HC157N (MOTOROLA)
SN74HC157N (TI)
TC74HC157P (TOSHIBA)
C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —


INH IN
Y0 IN
Y1 IN
YC OUT
X0 IN
X1 IN
XC OUT
16
15
14
13
12
11
10
9
VDD
(+2 to +6V)
1
0
GND
1
2
3
4
5
6
7
8
A IN
V0 IN
V1 IN
VC OUT
W0 IN
W1 IN
WC OUT

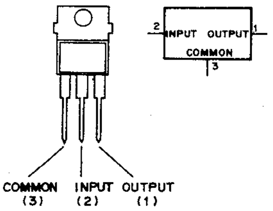

2 V0
3 V1
VC 4
5 W0
6 W1
WC 7
11 X0
10 X1
XC 9
14 Y0
13 Y1
YC 12
A INH
1 15

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

NJM79M ? ?A (JRC)

NEGATIVE VOLTAGE REGULATOR (500mA)
— FRONT VIEW —

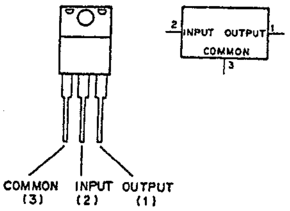

2
INPUT
OUTPUT
1
COMMON
3
COMMON (3)
INPUT (2)
OUTPUT (1)

−5V	NJM79M05A
−6V	NJM79M06A
−8V	NJM79M08A
−9V	NJM79M09A
−12V	NJM79M12A
−15V	NJM79M15A
−18V	NJM79M18A
−24V	NJM79M24A

* *

RC79M ? ?FA (RAYTHEON)

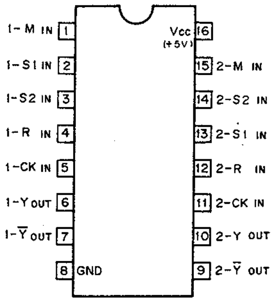
NEGATIVE VOLTAGE REGULATOR
- FRONT VIEW -

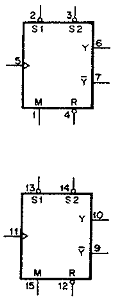

2
INPUT
OUTPUT
1
COMMON
3
COMMON (3)
INPUT (2)
OUTPUT (1)

−5V	NJM79M05FA	RC79M05FA
−6V	NJM79M06FA	RC79M06FA
−8V	NJM79M08FA	RC79M08FA
−9V	NJM79M09FA	RC79M09FA
−12V	NJM79M12FA	RC79M12FA
−15V	NJM79M15FA	RC79M15FA
−18V	NJM79M18FA	RC79M18FA
−24V	NJM79M24FA	RC79M24FA

SN74120N (TI)

TTL PULSE SYNCHRONIZER/DRIVER
— TOP VIEW —


1-M IN 1
1-S1 IN 2
1-S2 IN 3
1-R IN 4
1-CK IN 5
1-Y OUT 6
1-$\overline{Y}$ OUT 7
8 GND
Vcc (+5V) 16
15 2-M IN
14 2-S2 IN
13 2-S1 IN
12 2-R IN
11 2-CK IN
10 2-Y OUT
9 2-$\overline{Y}$ OUT


2
3
S1
S2
5
Y
6
$\overline{Y}$
7
M
R
1
4
13
14
S1
S2
11
Y
10
$\overline{Y}$
9
M
R
15
12

INPUT M	OUTPUT MODE
0	TRAIN OF PULSES
1	SINGLE PULSE

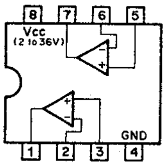
S1, S2 ; START COMMAND INPUTS
R ; STOP COMMAND INPUT
M ; MODE CONTROL INPUT
Y, $\overline{Y}$; SYNCHRONIZED PULSE OUTPUT

INPUTS			FUNCTION
R	S1	S2	
X	0	X	PASS OUTPUT PULSES
X	X	0	PASS OUTPUT PULSES
0	1	1	INHIBIT OUTPUT PULSES
1	↓	1	START OUTPUT PULSES
1	1	↓	START OUTPUT PULSES
↓	1	1	STOP OUTPUT PULSES
1	1	1	CONTINUE

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

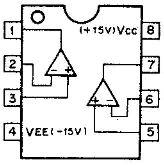
NJM2903D (JRC)
uPC393C (NEC)

VOLTAGE COMPARATOR
— TOP VIEW —


8
7
6
5
Vcc (2 to 36V)
GND
1
2
3
4

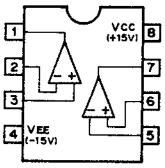
NJM4558D (JRC)
uPC4558C (NEC)

OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
(+15V)Vcc
8
7
6
5
VEE(−15V)

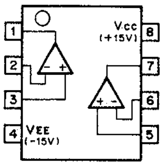
NJM4559D (JRC)

OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
Vcc (+15V)
8
7
6
5
VEE (−15V)

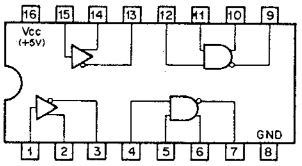
NJM4560D (JRC)

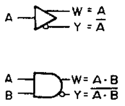
OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
Vcc (+15V)
8
7
6
5
VEE (−15V)

SN74265N (TI)

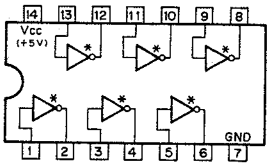
TTL COMPLEMENTARY-OUTPUT ELEMENT
— TOP VIEW —

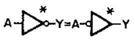

16
15
14
13
12
11
10
9
Vcc (+5V)
GND
1
2
3
4
5
6
7
8


A
W = A
Y = $\overline{A}$
A
B
W = A·B
Y = $\overline{A \cdot B}$

SN7406N (TI)

TTL INVERTER BUFFER/DRIVER WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
GND
1
2
3
4
5
6
7



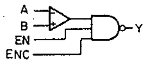
Y = $\overline{A}$

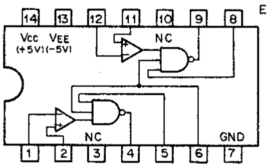
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL
*; OPEN COLLECTOR

SN75107AN (TI)

LINE RECEIVER
— TOP VIEW —



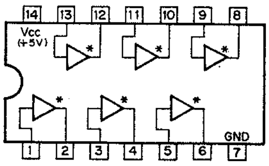

14
13
12
11
10
9
8
Vcc VEE (+5V)(−5V)
NC
NC
GND
1
2
3
4
5
6
7

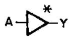
DIFF· INPUTS	EN	ENC	Y
B−A ≦ −25mV	X	X	1
|B−A| < 25mV	X	0	1
	0	X	1
	1	1	N·D
B−A ≧ 25mV	X	0	1
	0	X	1
	1	1	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

SN7407N (TI)

TTL BUFFER/DRIVER WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
GND
1
2
3
4
5
6
7



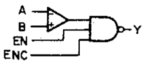
Y = A

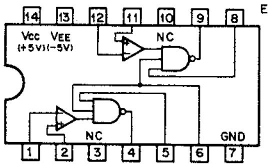
A	Y
0	0
1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

SN75207N (TI)

DUAL HIGH-SENSITIVITY LINE RECEIVER
— TOP VIEW —




14
13
12
11
10
9
8
Vcc VEE (+5V)(−5V)
NC
NC
GND
1
2
3
4
5
6
7

DIFF· INPUTS	EN	ENC	Y
B−A ≦ −10mV	X	X	1
|B−A| < 10mV	X	0	1
	0	X	1
	1	1	N·D
B−A ≧ 10mV	X	0	1
	0	X	1
	1	1	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

(AP-15 BOARD, BVH-3000PS/3100PS) Board No. 1-621-107-12 & Higher

Ref.No. or Q'ty	Part No.	SP	Description
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-109-73	s	DIODE RD4.3ESB
D401	8-719-911-19	s	DIODE 1SS119
D402	8-719-911-19	s	DIODE 1SS119
D403	8-719-911-19	s	DIODE 1SS119
D404*	8-719-109-73	s	DIODE RD4.3ESB
D407*	8-719-911-19	s	DIODE 1SS119
D501	8-719-911-19	s	DIODE 1SS119
D502	8-719-911-19	s	DIODE 1SS119
D503	8-719-109-73	s	DIODE RD4.3ESB
D504	8-719-930-33	s	DIODE GL-3PR3
D505	8-719-930-33	s	DIODE GL-3PR3
D506	8-719-911-19	s	DIODE 1SS119
D507	8-719-911-19	s	DIODE 1SS119
D508	8-719-911-19	s	DIODE 1SS119
D509	8-719-911-19	s	DIODE 1SS119
D510	8-719-911-19	s	DIODE 1SS119
D513	8-719-911-19	s	DIODE 1SS119
D514	8-719-930-33	s	DIODE GL-3PR3
D601	8-719-911-19	s	DIODE 1SS119
D602	8-719-911-19	s	DIODE 1SS119
D603	8-719-911-19	s	DIODE 1SS119
D604	8-719-911-19	s	DIODE 1SS119
IC1	8-759-240-69	s	IC TC4069UBP
IC2	8-759-903-93	s	IC SN74LS393N
IC3	8-759-942-65	s	IC SN74265N
IC4	8-759-990-82	s	IC TL082CP
IC5	8-759-990-82	s	IC TL082CP
* *IC6	8-759-045-84	s	IC MC14584BCP
IC7	8-759-982-41	s	IC RC7915FA
IC8	8-759-982-15	s	IC RC7815FA
IC9	8-759-982-15	s	IC RC7815FA
IC10	8-759-982-41	s	IC RC7915FA
IC11	8-759-900-59	s	IC HI1-0201-5
IC12	8-759-974-06	s	IC SN7406N
IC13	8-759-900-32	s	IC SN74LS32N
* *IC14	8-759-900-32	s	IC SN74LS32N
IC15	8-759-982-15	s	IC RC7815FA
IC16	8-759-982-41	s	IC RC7915FA
IC17	8-759-982-36	s	IC RC78M15FA
IC18	8-759-982-58	s	IC RC79M15FA
IC19	8-759-982-15	s	IC RC7815FA
IC20	8-759-982-41	s	IC RC7915FA
IC101	8-759-990-82	s	IC TL082CP
IC102	8-759-745-60	s	IC NJM4560D
IC103	8-759-602-01	s	IC M5220P
IC 301	8-759-990-82	s	IC TL082CP
IC202	8-759-745-60	s	IC NJM4560D
IC203	8-759-602-01	s	IC M5220P
IC301	8-759-990-82	s	IC TL082CP
IC302	8-759-745-60	s	IC NJM4560D
IC401	8-759-990-82	s	IC TL082CP
IC402*	8-759-745-60	s	IC NJM4560D
IC403*	8-759-602-01	s	IC M5220P
IC501	8-759-990-82	s	IC TL082CP
IC502	8-759-602-01	s	IC M5220P
IC503	8-759-745-60	s	IC NJM4560D
IC504	8-759-990-82	s	IC TL082CP
IC505	8-759-203-08	s	IC TC74HC221P
IC506	8-759-745-60	s	IC NJM4560D

(AP-15 BOARD, BVH-3000PS/3100PS) Board No. 1-621-107-12 & Higher

Ref.No. or Q'ty	Part No.	SP	Description
IC507	8-759-906-07	s	IC TL607CP
IC508	8-759-745-60	s	IC NJM4560D
IC509	8-759-131-11	s	IC UPC311C
IC601	8-759-990-82	s	IC TL082CP
IC602	8-759-990-82	s	IC TL082CP
JP101	1-566-385-11	s	PIN 2P
JP102	1-566-385-11	s	PIN 2P
JP103	1-566-385-11	s	PIN 2P
JP201	1-566-385-11	s	PIN 2P
JP202	1-566-385-11	s	PIN 2P
JP203	1-566-385-11	s	PIN 2P
JP301	1-566-385-11	s	PIN 2P
JP302	1-566-385-11	s	PIN 2P
JP401*	1-566-385-11	s	PIN 2P
JP402*	1-566-385-11	s	PIN 2P
JP403*	1-566-385-11	s	PIN 2P
JP501	1-566-385-11	s	PIN 2P
JP502	1-566-385-11	s	PIN 2P
JP503	1-566-385-11	s	PIN 2P
JP504	1-566-385-11	s	PIN 2P
JS101	1-563-859-11	s	RECEPTACLE, 2P
JS201	1-563-859-11	s	RECEPTACLE, 2P
JS301	1-563-859-11	s	RECEPTACLE, 2P
JS401*	1-563-859-11	s	RECEPTACLE, 2P
JS503	1-563-859-11	s	RECEPTACLE, 2P
L2	1-421-329-00	s	COIL, CHOKE
L3	1-421-329-00	s	COIL, CHOKE
L4	1-421-329-00	s	COIL, CHOKE
L102	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L103	1-410-069-11	s	INDUCTOR 6.8mH 5%
L202	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L203	1-410-069-11	s	INDUCTOR 6.8mH 5%
L206	1-407-261-00	s	INDUCTOR, VAR 100UH
L302	1-407-286-00	s	INDUCTOR, VAR 2.2mH
L303	1-410-069-11	s	INDUCTOR 6.8mH 5%
L306	1-407-261-00	s	INDUCTOR, VAR 100UH
L307	1-408-397-00	s	INDUCTOR 1UH 5%
L402	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L403	1-410-069-11	s	INDUCTOR 6.8mH 5%
L404*	1-408-424-00	s	INDUCTOR 180UH
L502	1-407-284-00	s	INDUCTOR, VAR 1mH
L503	1-410-069-11	s	INDUCTOR 6.8mH 5%
L506	1-408-428-00	s	INDUCTOR 390UH 5%
LV1	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV101	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV104	1-407-301-00	s	INDUCTOR, VAR 9mH
LV105	1-407-301-00	s	INDUCTOR, VAR 9mH
LV201	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV204	1-407-301-00	s	INDUCTOR, VAR 9mH
LV205	1-407-301-00	s	INDUCTOR, VAR 9mH
LV301	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV304	1-407-301-00	s	INDUCTOR, VAR 9mH
LV305	1-407-301-00	s	INDUCTOR, VAR 9mH
LV401	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV404*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV405*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV501	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV504	1-407-301-00	s	INDUCTOR, VAR 9mH
LV505	1-407-301-00	s	INDUCTOR, VAR 9mH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
D507	8-719-911-19	s	DIODE 1SS119
D508	8-719-911-19	s	DIODE 1SS119
D509	8-719-911-19	s	DIODE 1SS119
D510	8-719-911-19	s	DIODE 1SS119
D511	8-719-911-19	s	DIODE 1SS119
D512	8-719-911-19	s	DIODE 1SS119
D513	8-719-911-19	s	DIODE 1SS119
D514	8-719-911-19	s	DIODE 1SS119
D701*	8-719-911-19	s	DIODE 1SS119
D702*	8-719-911-19	s	DIODE 1SS119
D703*	8-719-911-19	s	DIODE 1SS119
D704*	8-719-911-19	s	DIODE 1SS119
D705*	8-719-911-19	s	DIODE 1SS119
D706*	8-719-911-19	s	DIODE 1SS119
D707*	8-719-911-19	s	DIODE 1SS119
D708*	8-719-911-19	s	DIODE 1SS119
D709*	8-719-911-19	s	DIODE 1SS119
D710	8-719-109-83	s	DIODE RD5.1ESB
D711	8-719-911-19	s	DIODE 1SS119
D712	8-719-911-19	s	DIODE 1SS119
D713	8-719-911-19	s	DIODE 1SS119
IC1	8-759-708-15	s	IC NJM78L15A
IC2	8-759-700-70	s	IC NJM79L15A
* *IC3	8-759-982-15	s	IC RC7815FA
IC4	8-759-938-68	s	IC CXD1095Q
IC5	8-759-938-68	s	IC CXD1095Q
* *IC6	8-759-916-20	s	IC SN74HC14N
IC7	8-759-901-32	s	IC SN74LS132N
IC8	8-759-900-32	s	IC SN74LS32N
IC9	8-759-900-00	s	IC SN74LS00N
* *IC10	8-759-202-74	s	IC TC74HC04P
┌IC101	8-759-982-15	s	IC RC7815FA
└IC102	8-759-982-41	s	IC RC7915FA
IC103	8-759-900-72	s	IC NE5532P
IC104	8-759-745-60	s	IC NJM4560D
IC105	8-759-921-91	s	IC TL191CN
IC106	8-759-745-59	s	IC NJM4559D
IC107	8-759-745-59	s	IC NJM4559D
IC108	8-759-921-91	s	IC TL191CN
IC109	8-759-745-60	s	IC NJM4560D
IC110	8-759-921-91	s	IC TL191CN
IC111	8-759-745-59	s	IC NJM4559D
IC112	8-759-921-91	s	IC TL191CN
IC113	8-759-745-59	s	IC NJM4559D
IC114	8-759-921-91	s	IC TL191CN
IC115	8-759-745-59	s	IC NJM4559D
IC116	8-759-745-60	s	IC NJM4560D
IC117	8-759-990-82	s	IC TL082CP
* *IC118	8-759-745-63	s	IC NJM4560D-X
┌IC301	8-759-982-15	s	IC RC7815FA
└IC302	8-759-982-41	s	IC RC7915FA
IC303	8-759-900-72	s	IC NE5532P
IC304	8-759-745-60	s	IC NJM4560D
IC305	8-759-921-91	s	IC TL191CN
IC306	8-759-745-59	s	IC NJM4559D

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
IC307	8-759-745-59	s	IC NJM4559D
IC308	8-759-921-91	s	IC TL191CN
IC309	8-759-745-60	s	IC NJM4560D
IC310	8-759-921-91	s	IC TL191CN
IC311	8-759-745-59	s	IC NJM4559D
IC312	8-759-921-91	s	IC TL191CN
IC313	8-759-745-59	s	IC NJM4559D
IC314	8-759-921-91	s	IC TL191CN
IC315	8-759-745-59	s	IC NJM4559D
IC316	8-759-745-60	s	IC NJM4560D
IC317	8-759-990-82	s	IC TL082CP
IC318	8-759-745-63	s	IC NJM4560D-X
* *┌IC501	8-759-982-15	s	IC RC7815FA
└IC502	8-759-982-41	s	IC RC7915FA
IC503	8-759-900-72	s	IC NE5532P
IC504	8-759-745-60	s	IC NJM4560D
IC505	8-759-921-91	s	IC TL191CN
IC506	8-759-921-91	s	IC TL191CN
IC507	8-759-745-59	s	IC NJM4559D
IC508	8-759-745-59	s	IC NJM4559D
IC509	8-759-921-91	s	IC TL191CN
IC510	8-759-745-60	s	IC NJM4560D
IC511	8-759-745-59	s	IC NJM4559D
IC512	8-759-921-91	s	IC TL191CN
IC513	8-759-745-60	s	IC NJM4560D
IC515	8-759-921-91	s	IC TL191CN
IC516	8-759-745-63	s	IC NJM4560D-X
IC517	8-759-745-60	s	IC NJM4560D
IC518	8-759-990-82	s	IC TL082CP
IC519	8-759-745-59	s	IC NJM4559D
IC520	8-759-208-06	s	IC TC4051BPHB
IC521	8-759-908-20	s	IC TL820CN
IC522	8-759-900-00	s	IC SN74LS00N
IC523	8-759-900-04	s	IC SN74LS04N
IC524	8-759-901-26	s	IC SN74LS126AN
IC525	8-759-901-25	s	IC SN74LS125AN
IC526	8-759-901-26	s	IC SN74LS126AN
IC527	8-759-901-25	s	IC SN74LS125AN
IC528	8-759-990-82	s	IC TL082CP
IC529	8-759-921-91	s	IC TL191CN
IC530	8-759-921-91	s	IC TL191CN
* *┌IC701*	8-759-982-15	s	IC RC7815FA
└IC702*	8-759-982-41	s	IC RC7915FA
IC703*	8-759-900-72	s	IC NE5532P
IC704*	8-759-745-60	s	IC NJM4560D
IC705*	8-759-921-91	s	IC TL191CN
IC706*	8-759-745-59	s	IC NJM4559D
IC707*	8-759-745-59	s	IC NJM4559D
IC708*	8-759-921-91	s	IC TL191CN
IC709*	8-759-745-60	s	IC NJM4560D
IC710*	8-759-745-59	s	IC NJM4559D
IC711*	8-759-921-91	s	IC TL191CN
IC712*	8-759-921-91	s	IC TL191CN
IC713*	8-759-045-38	s	IC MC14538BCP
IC714*	8-759-900-08	s	IC SN74LS08N

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICC17	8-752-030-40	s	IC CXA1016P
ICC19	8-759-990-82	s	IC TL082CP
ICC21	8-759-990-82	s	IC TL082CP
ICD1	8-759-990-82	s	IC TL082CP
ICD2	8-759-933-51	s	IC CXD1020Q
ICD5	8-759-933-51	s	IC CXD1020Q
ICD7	8-759-900-69	s	IC SN74ALS74AN
ICD8	8-759-900-10	s	IC SN74LS10N
ICD9	8-759-900-74	s	IC SN74LS74AN
ICD10	8-759-900-08	s	IC SN74LS08N
ICD19	8-749-901-26	s	IC BX-381L
ICE1	8-759-201-41	s	IC TD62901P
ICE2	8-759-900-30	s	IC SN74LS30N
ICE3	8-759-903-74	s	IC SN74LS374N
ICE4	8-759-903-74	s	IC SN74LS374N
ICE5	8-759-900-30	s	IC SN74LS30N
ICE6	8-759-900-32	s	IC SN74LS32N
ICE7	8-759-900-04	s	IC SN74LS04N
ICE8	8-759-901-64	s	IC SN74LS164N
ICE9	8-759-900-30	s	IC SN74LS30N
ICE10	8-759-900-69	s	IC SN74ALS74AN
ICE11	8-759-933-51	s	IC CXD1020Q
ICE14	8-759-933-51	s	IC CXD1020Q
ICE17	8-759-300-25	s	IC HD10125
ICE18	8-759-900-04	s	IC SN74LS04N
ICE19	8-759-900-74	s	IC SN74LS74AN
ICE20	8-759-901-23	s	IC SN74LS123N
ICE21	8-749-901-26	s	IC BX-381L
ICF1	8-759-903-74	s	IC SN74LS374N
ICF3	8-759-903-99	s	IC SN74LS399N
ICF4	8-759-903-99	s	IC SN74LS399N
ICF5	8-759-113-43	s	IC UPD41102C-1S
ICF6	8-759-903-99	s	IC SN74LS399N
ICF8	8-759-918-33	s	IC CX20160
ICF9	8-759-918-33	s	IC CX20160
ICF10	8-759-901-57	s	IC SN74LS157N
ICF11	8-759-901-57	s	IC SN74LS157N
ICF12	8-759-901-57	s	IC SN74LS157N
ICF13	8-759-902-83	s	IC SN74LS283N
ICF14	8-759-903-99	s	IC SN74LS399N
ICF15	8-759-903-99	s	IC SN74LS399N
ICF16	8-759-900-68	s	IC SN74ALS30AN
ICF17	8-759-300-25	s	IC HD10125
ICF18	8-759-900-00	s	IC SN74LS00N
ICF19	8-759-900-74	s	IC SN74LS74AN
ICF20	8-759-912-05	s	IC SN74ALS161BN
ICG1	8-759-901-74	s	IC SN74LS174N
ICG2	8-759-900-74	s	IC SN74LS74AN
ICG3	8-759-900-74	s	IC SN74LS74AN
ICG4	8-759-900-08	s	IC SN74LS08N
ICG5	8-759-900-02	s	IC SN74LS02N
ICG6	8-759-901-75	s	IC SN74LS175N
ICG7	8-759-901-63	s	IC SN74LS163AN
ICG8	8-759-901-63	s	IC SN74LS163AN
ICG9	8-759-901-63	s	IC SN74LS163AN
ICG11	8-759-900-74	s	IC SN74LS74AN
ICG12	8-759-901-57	s	IC SN74LS157N
ICG13	8-759-902-83	s	IC SN74LS283N
ICG14	8-759-906-69	s	IC SN74LS669N

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICG15	8-759-906-69	s	IC SN74LS669N
ICG16	8-759-900-00	s	IC SN74LS00N
ICG17	8-759-001-16	s	IC MC10116L
ICG18	8-759-901-23	s	IC SN74LS123N
ICG19	8-759-900-74	s	IC SN74LS74AN
ICG20	8-759-902-21	s	IC SN74LS221N
ICG21	8-759-901-64	s	IC SN74LS164N
ICH1	8-759-901-64	s	IC SN74LS164N
ICH2	8-759-901-64	s	IC SN74LS164N
ICH3	8-759-300-25	s	IC HD10125
ICH4	8-759-900-04	s	IC SN74LS04N
ICH5	8-759-904-18	s	IC SN74ALS00AN
ICH6	8-759-901-38	s	IC SN74LS138N
ICH7	8-759-936-54	s	IC SN74ALS175N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-912-07	s	IC SN74ALS163AN
ICH10	8-759-912-07	s	IC SN74ALS163AN
ICH11	8-759-912-07	s	IC SN74ALS163AN
ICH12	8-759-900-68	s	IC SN74ALS30AN
ICH13	8-759-904-09	s	IC SN74LS688N
ICH14	8-759-906-69	s	IC SN74LS669N
ICH15	8-759-906-69	s	IC SN74LS669N
ICH19	8-759-900-04	s	IC SN74LS04N
ICH20	8-759-902-21	s	IC SN74LS221N
ICH21	8-759-902-21	s	IC SN74LS221N
ICJ1	8-759-901-51	s	IC SN74LS151P
ICJ2	8-759-900-04	s	IC SN74LS04N
ICJ3	8-759-901-63	s	IC SN74LS163AN
ICJ4	8-759-901-63	s	IC SN74LS163AN
ICJ5	8-759-900-00	s	IC SN74LS00N
**ICJ6	8-759-989-69	s	IC SN74LS86AN
ICJ7	8-759-900-04	s	IC SN74LS04N
ICJ8	8-759-900-74	s	IC SN74LS74AN
ICJ9	8-759-904-33	s	IC SN74ALS20AN
ICJ10	8-759-900-32	s	IC SN74LS32N
ICJ11	8-759-900-69	s	IC SN74ALS74AN
ICJ12	8-759-904-26	s	IC SN74ALS08N
ICJ13	8-759-901-23	s	IC SN74LS123N
ICJ14	8-759-901-74	s	IC SN74LS174N
ICJ15	8-759-900-74	s	IC SN74LS74AN
ICJ16	8-759-300-25	s	IC HD10125
ICJ17	8-759-990-82	s	IC TL082CP
ICJ19	8-749-938-10	s	IC BX-381
ICJ21	8-759-990-82	s	IC TL082CP
ICK1	8-759-901-53	s	IC SN74LS153N
ICK2	8-759-901-51	s	IC SN74LS151N
ICK3	8-759-901-51	s	IC SN74LS151N
ICK4	8-759-902-21	s	IC SN74LS221N
ICK5	8-759-901-75	s	IC SN74LS175N
ICK6	8-759-900-08	s	IC SN74LS08N
ICK7	8-759-900-04	s	IC SN74LS04N
ICK8	8-759-900-20	s	IC SN74LS20N
ICK9	8-759-901-23	s	IC SN74LS123N
ICK10	8-759-901-63	s	IC SN74LS163AN
ICK11	8-759-900-08	s	IC SN74LS08N
ICK12	8-759-900-74	s	IC SN74LS74AN

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
ICK13	8-759-900-08	s	IC SN74LS08N
ICK14	8-759-900-10	s	IC SN74LS10N
ICK15	8-759-901-53	s	IC SN74LS153N
ICK16	8-759-900-74	s	IC SN74LS74AN
ICK17	8-759-902-21	s	IC SN74LS221N
ICK19	8-759-904-20	s	IC MB4002
ICK21	8-759-918-23	s	IC NE527N
ICL1	8-741-101-11	s	IC BX-1101A
ICL3	8-759-906-07	s	IC TL607CP
ICL4	8-759-990-82	s	IC TL082CP
ICL5	8-759-918-93	s	IC SN75207N
ICL6	8-759-900-08	s	IC SN74LS08N
ICL7	8-759-900-74	s	IC SN74LS74AN
ICL8	8-759-900-30	s	IC SN74LS33N
ICL9	8-759-900-74	s	IC SN74LS74AN
ICL10	8-759-901-63	s	IC SN74LS163AN
** ICL11	8-759-989-69	s	IC SN74LS86AN
ICL12	8-759-901-23	s	IC SN74LS123N
ICL13	8-759-900-00	s	IC SN74LS00N
ICL14	8-759-900-69	s	IC SN74ALS74AN
ICL15	8-759-900-00	s	IC SN74LS00N
ICL16	8-759-900-04	s	IC SN74LS04N
ICL17	8-759-900-04	s	IC SN74LS04N
ICL19	8-759-990-82	s	IC TL082CP
ICL21	8-749-900-63	s	IC BX-365AL
ICM1	8-759-202-26	s	IC TC74HC138P
ICM2	8-759-900-04	s	IC SN74LS04N
ICM3	8-759-901-23	s	IC SN74LS123N
ICM4	8-759-902-21	s	IC SN74LS221N
ICM5	8-759-900-74	s	IC SN74LS74AN
ICM6	8-759-900-74	s	IC SN74LS74AN
ICM7	8-759-103-93	s	IC UPC393C
ICM8	8-759-918-71	s	IC CX23065
ICM9	8-759-900-74	s	IC SN74LS74AN
ICM10	8-759-901-23	s	IC SN74LS123N
ICM11	8-759-900-04	s	IC SN74LS04N
ICM12	8-759-900-74	s	IC SN74LS74AN
ICM13	8-759-901-63	s	IC SN74LS163AN
ICM14	8-759-904-20	s	IC MB4002
ICM15	8-759-103-93	s	IC UPC393C
ICM16	8-759-990-82	s	IC TL082CP
ICM18	8-759-990-82	s	IC TL082CP
ICM19	8-749-901-26	s	IC BX-381L
** ICM21	8-759-990-82	s	IC TL082CP
ICN1	8-759-916-79	s	IC SN74HC273N
ICN2	8-759-916-79	s	IC SN74HC273N
ICN3	8-759-900-74	s	IC SN74LS74AN
ICN4	8-759-900-74	s	IC SN74LS74AN
ICN5	8-759-900-10	s	IC SN74LS10N
ICN6	8-759-103-93	s	IC UPC393C
ICN8	8-749-901-26	s	IC BX-381L
ICN9	8-759-901-23	s	IC SN74LS123N
ICN10	8-759-901-23	s	IC SN74LS123N
ICN11	8-759-901-23	s	IC SN74LS123N
ICN12	8-759-900-08	s	IC SN74LS08N
ICN13	8-759-901-63	s	IC SN74LS163AN

Ref. No. or Q'ty	Part No.	SP	Description
ICN14	8-759-900-00	s	IC SN74LS00N
ICN16	8-759-990-82	s	IC TL082CP
ICN17	8-749-901-26	s	IC BX-381L
ICN21	8-759-990-82	s	IC TL082CP
ICP1	8-759-900-00	s	IC SN74LS00N
ICP2	8-759-208-10	s	IC TC4053BPHB
ICP3	8-759-900-74	s	IC SN74LS74AN
ICP4	8-759-900-08	s	IC SN74LS08N
ICP5	8-759-900-32	s	IC SN74LS32N
ICP6	8-759-900-74	s	IC SN74LS74AN
ICP7	8-759-918-40	s	IC CX20194
ICP9	8-759-901-23	s	IC SN74LS123N
ICP11	8-759-900-74	s	IC SN74LS74AN
ICP12	8-759-901-75	s	IC SN74LS175N
ICP13	8-759-900-04	s	IC SN74LS04N
ICP14	8-759-900-33	s	IC SN74LS33N
ICP15	8-759-918-40	s	IC CX20194
ICP16	8-759-990-82	s	IC TL082CP
ICP18	8-759-016-48	s	IC MC1648P
ICP20	8-759-208-10	s	IC TC4053BPHB
L1	1-408-409-00	s	INDUCTOR 10UH 5%
L2	1-408-409-00	s	INDUCTOR 10UH 5%
L3	1-408-409-00	s	INDUCTOR 10UH 5%
L4	1-408-409-00	s	INDUCTOR 10UH 5%
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-421-370-00	s	COIL, CHOKE
L8	1-421-370-00	s	COIL, CHOKE
L9	1-421-370-00	s	COIL, CHOKE
L10	1-421-370-00	s	COIL, CHOKE
L11	1-421-370-00	s	COIL, CHOKE
L12	1-408-409-00	s	INDUCTOR 10UH 5%
L13	1-408-409-00	s	INDUCTOR 10UH 5%
L14	1-408-409-00	s	INDUCTOR 10UH 5%
L15	1-408-409-00	s	INDUCTOR 10UH 5%
L17	1-408-409-00	s	INDUCTOR 10UH 5%
L701	1-410-956-11	s	INDUCTOR,VAR
L800	1-408-425-00	s	INDUCTOR, 220UH 5%
LPF1	1-231-621-00	s	FILTER, LOW-PASS
LV1	1-409-403-11	s	COIL, TUNING
LV2	1-410-286-11	s	INDUCTOR, VAR 1UH
LV7	1-410-285-11	s	INDUCTOR, VAR 0.68UH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q4	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q5	8-729-900-61	s	TRANSISTOR DTA114ES
Q6	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q7	8-729-900-61	s	TRANSISTOR DTA114ES
Q8	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q9	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q10	8-729-190-12	s	TRANSISTOR 2SC2901
Q11	8-729-900-61	s	TRANSISTOR DTA114ES
Q12	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q13	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q14	8-729-900-61	s	TRANSISTOR DTA114ES
Q15	8-729-190-12	s	TRANSISTOR 2SC2901
Q16	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q17	8-729-900-61	s	TRANSISTOR DTA114ES

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

DR-13 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000/3000PS)	A-6049-008-A	o	COMPLETE PCB, DR-13
1pc (for BVH-3100/3100PS)	A-6049-025-A	s	COMPLETE PCB, DR-13
34pcs (for BVH-3000/3000PS) 22pcs (for BVH-3100/3100PS)	1-560-240-00	s	CONTACT
2pc	7-621-259-49	s	SCREW +P 2.6X6
2pc	7-682-147-15	s	SCREW +P 3X6
2pc	7-684-023-04	s	N 3,TYPE 2
4pc	7-688-003-11	s	W 3, MIDDLE
C1	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C2	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C3	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C4 (for BVH-3000/3000PS)	1-131-353-00	s	CAP, TANT 10uF 10% 35V
D1	8-719-900-95	s	DIODE V09G
D2	8-719-109-07	s	DIODE RD39E-B
D3	8-719-109-07	s	DIODE RD39E-B
D4	8-719-900-95	s	DIODE V09G
D5	8-719-912-20	s	DIODE 1SS120
D6	8-719-912-20	s	DIODE 1SS120
D7	8-719-912-20	s	DIODE 1SS120
D8	8-719-912-20	s	DIODE 1SS120
IC1	8-759-377-43	s	IC HA17741GS
IC2	8-741-115-62	s	IC BX-1156B
IC3 (for BVH-3000/3000PS)	8-741-115-62	s	IC BX-1156B
L1	1-408-096-00	s	MICRO INDUCTOR 470UH
L2	1-408-096-00	s	MICRO INDUCTOR 470UH
L3 (for BVH-3000/3000PS)	1-408-096-00	s	MICRO INDUCTOR 470UH
Q1	8-729-105-71	s	TRANSISTOR 2SK523-K2
R1	1-247-838-00	s	RES, CARBON 2K 5% 1/6W
R3	1-215-474-00	s	RES, CARBON 160K 5% 1/6W

DS-19 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6025-102-A	o	COMPLETE PCB, DS-19
C3	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C6	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C10	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C12	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C16	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C17	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C19	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C20	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C21	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C24	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C25	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C26	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C27	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C28	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C29	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C30	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C31	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
CN001	1-560-300-00	o	RECEP, IL 3P MALE
CN002	1-560-301-00	o	RECEP, IL 4P MALE
CN003	1-560-302-00	o	RECEP, IL 5P MALE
CN004	1-560-300-00	o	RECEP, IL 3P MALE
CN005	1-560-301-00	o	RECEP, IL 4P MALE
CN006	1-560-304-00	o	RECEP, IL 8P MALE
CN007	1-560-301-00	o	RECEP, IL 4P MALE
CN008	1-560-300-00	o	RECEP, IL 3P MALE
CN009	1-560-300-00	o	RECEP, IL 3P MALE
CN010	1-560-299-00	o	RECEP, IL 2P MALE
CN011	1-560-300-00	o	RECEP, IL 3P MALE
CN021	1-560-727-00	o	RECEP, 26P MALE
CN022	1-560-303-00	o	RECEP, IL 6P MALE
D1	8-719-200-02	s	DIODE 10E-2
D2	8-719-200-02	s	DIODE 10E-2
D3	8-719-200-02	s	DIODE 10E-2
D4	8-719-200-02	s	DIODE 10E-2
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-200-02	s	DIODE 10E-2
D15	8-719-200-02	s	DIODE 10E-2
D16	8-719-200-02	s	DIODE 10E-2
D17	8-719-200-02	s	DIODE 10E-2
D18	8-719-200-02	s	DIODE 10E-2
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-200-02	s	DIODE 10E-2
IC1	8-759-135-80	s	IC UPC358C
**IC2	8-759-916-20	s	IC SN74HC14N
IC3	8-759-133-90	s	IC UPC339C
IC4	8-759-208-39	s	IC MP4001
IC5	8-759-645-16	s	IC M54516P

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

KC-14 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-136-A	o	COMPLETE PCB, KC-14
1pc	7-682-647-09	s	SCREW +PS 3X6
2pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	7-684-023-04	s	N 3, TYPE 2
BZ101	1-529-025-00	s	BUZZER
C103	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C104	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C105	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C106	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C107	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C108	1-124-918-11	s	CAP, ELECT 47uF 20% 63V
C109	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C110	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C112	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C113	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C114	1-124-773-11	s	CAP, ELECT 27uF 20% 63V
C115	1-124-773-11	s	CAP, ELECT 27uF 20% 63V
C117	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C118	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C119	1-102-114-00	s	CAP, CERAMIC 470PF 10% 50V
C120	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C121	1-124-462-00	s	CAP, ELECT 10uF 20% 16V
C124	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C125	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
CN701	1-563-769-11	s	RECEP, ROUND 8P FEMALE
CN702	1-564-494-11	o	RECEP, 60P MALE
CN703	1-564-493-11	o	RECEP, 40P MALE
CN704	1-564-494-11	o	RECEP, 60P MALE
D101	8-719-907-25	s	DIODE ERA84-009
D102	8-719-110-11	s	DIODE RD9.1ESB
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-907-25	s	DIODE ERA84-009
D106	8-719-911-19	s	DIODE 1SS119
ICA4	8-759-904-94	s	IC TL494CN
ICB3	8-759-904-94	s	IC TL494CN
ICC2	8-759-909-15	s	IC MSL915RS
ICC3	8-759-995-10	s	IC MSL9510RS
ICC4	8-759-909-15	s	IC MSL915RS
ICC5	8-759-940-94	s	IC MSM4094RS
ICC7	8-759-008-57	s	IC MC34051P
ICD2	8-759-909-15	s	IC MSL915RS
ICD3	8-759-995-10	s	IC MSL9510RS
ICD4	8-759-909-15	s	IC MSL915RS
ICD5	8-759-940-94	s	IC MSM4094RS
ICD6	8-759-202-14	s	IC TC74HC08P
ICE2	8-759-909-15	s	IC MSL915RS
ICE3	8-759-940-94	s	IC MSM4094RS
ICE4	8-759-909-15	s	IC MSL915RS
ICE5	8-759-940-94	s	IC MSM4094RS
ICE6	8-759-203-08	s	IC TC74HC221P
**ICE7	8-759-916-29	s	IC SN74HC74N
ICF2	8-759-909-15	s	IC MSL915RS
ICF3	8-759-940-94	s	IC MSM4094RS
ICF4	8-759-202-21	s	IC TC74HC32P

(KC-14 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICF5	8-759-202-11	s	IC TC74HC00P
ICF6	8-759-901-38	s	IC SN74LS138N
ICF7	8-759-910-43	s	IC CX23028
ICG2	8-759-909-15	s	IC MSL915RS
ICG3	8-759-940-94	s	IC MSM4094RS
ICG5	8-759-112-54	s	IC UPD78C10G-36
ICG7	8-759-203-40	s	IC TC74HC393P
ICH1	8-759-995-10	s	IC MSL9510RS
ICH2	8-759-909-15	s	IC MSL915RS
ICH3	8-759-940-94	s	IC MSM4094RS
ICH7	8-759-202-74	s	IC TC74HC04P
ICJ1	8-759-909-15	s	IC MSL915RS
ICJ2	8-759-909-15	s	IC MSL915RS
ICJ3	8-759-940-94	s	IC MSM4094RS
ICJ5	8-759-783-37	s	IC, EPROM 27C64-KCU2-2-0
ICJ6	8-759-302-75	s	IC HM6116ALSP-12
ICJ7	8-759-202-15	s	IC TC74HC10P
ICK1	8-759-909-15	s	IC MSL915RS
ICK2	8-759-909-15	s	IC MSL915RS
ICK3	8-759-940-94	s	IC MSM4094RS
ICK4	8-759-203-35	s	IC TC74HC373P
ICK7	8-759-202-21	s	IC TC74HC32P
ICM1	8-759-995-10	s	IC MSL9510RS
ICM2	8-759-909-15	s	IC MSL915RS
ICM3	8-759-995-10	s	IC MSL9510RS
ICM4	8-759-909-15	s	IC MSL915RS
ICM5	8-759-940-94	s	IC MSM4094RS
L101	1-421-370-00	s	COIL, CHOKE
L102	1-409-339-00	s	COIL, CHOKE
L103	1-413-057-00	s	COIL, TROIDAL
L104	1-421-370-00	s	COIL, CHOKE
Q101	8-729-177-43	s	TRANSISTOR 2SD774
Q102	8-729-177-43	s	TRANSISTOR 2SD774
Q103	8-729-907-71	s	TRANSISTOR 2SA1077
Q104	8-729-900-36	s	TRANSISTOR DTC124ES
R112 ⚠	1-215-857-11	s	RES, METAL 10 5% 1W
R117	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R118	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
RB101	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB102	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB103	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB104	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB105	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB106	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB107	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB108	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB109	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB110	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB111	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB112	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RV101	1-230-840-11	s	RES, ADJ, METAL 1K
S101	1-553-856-00	s	SWITCH, PUSH
S102	1-553-856-00	s	SWITCH, PUSH
T101	1-448-768-12	s	TRANSFORMER, HEATER
X101	1-567-796-11	s	CRYSTAL 14.7456MHz

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

KY-103 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-135-A	o	COMPLETE PCB, KY-103
2pcs	2-252-640-00	s	KNOB, TACT SWITCH
6pcs	3-670-095-00	o	HOLDER, LED
CN1F	1-562-151-11	o	HOUSING, 6P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN702F	1-562-485-11	s	RECEP, 60P MALE
CN703F	1-562-336-00	s	RECEP, 40P MALE
CN704F	1-562-485-11	s	RECEP, 60P MALE
CN705M	1-506-473-11	o	RECEP, 8P MALE
CN706M	1-506-475-11	o	RECEP, 10P MALE
CN707M	1-506-487-11	o	RECEP, 8P MALE
CN708M	1-506-489-11	o	RECEP, 10P MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-905-55	s	DIODE EAA5504S
D25	8-719-905-55	s	DIODE EAA5504S
D26	8-719-905-55	s	DIODE EAA5504S
D27	8-719-905-55	s	DIODE EAA5504S
D28	8-719-905-55	s	DIODE EAA5504S
D29	8-719-905-55	s	DIODE EAA5504S
D30	8-719-940-83	s	DIODE LT9101N
D31	8-719-940-83	s	DIODE LT9101N
D32	8-719-940-83	s	DIODE LT9101N
D33	8-719-940-84	s	DIODE LT9101D
D34	8-719-940-84	s	DIODE LT9101D
IC1	8-759-645-17	s	IC M54517P
IC2	8-759-645-17	s	IC M54517P
IC3	8-759-645-17	s	IC M54517P
IC4	8-759-645-17	s	IC M54517P
IC5	8-759-645-17	s	IC M54517P
** IC6	8-759-645-17	s	IC M54517P
IC7	8-759-916-79	s	IC SN74HC273N
IC8	8-759-916-79	s	IC SN74HC273N
IC9	8-759-916-79	s	IC SN74HC273N
IC10	8-759-916-79	s	IC SN74HC273N
** IC11	8-759-916-79	s	IC SN74HC273N
IC12	8-759-916-79	s	IC SN74HC273N
IC13	8-759-645-17	s	IC M54517P
ND1	1-519-415-11	s	INDICATOR TUBE, FLUORESCENT
Q1	8-729-238-32	s	TRANSISTOR 2SC2383
S1	1-571-280-11	s	SWITCH WITH LED, PUSH
S2	1-571-280-11	s	SWITCH WITH LED, PUSH
S3	1-571-280-11	s	SWITCH WITH LED, PUSH
S4	1-571-280-11	s	SWITCH WITH LED, PUSH
S5	1-571-280-11	s	SWITCH WITH LED, PUSH
S6	1-571-280-11	s	SWITCH WITH LED, PUSH
S7	1-571-280-11	s	SWITCH WITH LED, PUSH
S8	1-571-280-11	s	SWITCH WITH LED, PUSH
S9	1-571-280-11	s	SWITCH WITH LED, PUSH
S10	1-571-280-11	s	SWITCH WITH LED, PUSH
S11	1-571-280-11	s	SWITCH WITH LED, PUSH
S12	1-571-280-11	s	SWITCH WITH LED, PUSH
S13	1-571-280-11	s	SWITCH WITH LED, PUSH
S14	1-571-280-11	s	SWITCH WITH LED, PUSH
S15	1-571-280-11	s	SWITCH WITH LED, PUSH
S16	1-554-044-12	s	SWITCH WITH LED, PUSH
S17	1-571-280-11	s	SWITCH WITH LED, PUSH
S18	1-552-412-00	s	SWITCH, PUSH
S19	1-552-412-00	s	SWITCH, PUSH
S20	1-554-045-22	s	SWITCH WITH LED, PUSH
S21	1-554-039-21	s	SWITCH WITH LED, PUSH
S22	1-554-040-21	s	SWITCH WITH LED, PUSH
S23	1-554-041-41	s	SWITCH WITH LED, PUSH

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
D7	8-719-918-88	s	DIODE 1SS198
D8	8-719-918-88	s	DIODE 1SS198
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-918-88	s	DIODE 1SS198
D16	8-719-918-88	s	DIODE 1SS198
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-911-19	s	DIODE 1SS119
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-911-19	s	DIODE 1SS119
D27	8-719-109-79	s	DIODE RD4.7ESB
D29	8-719-918-88	s	DIODE 1SS198
D30	8-719-918-88	s	DIODE 1SS198
D31	8-719-918-88	s	DIODE 1SS198
D32	8-719-918-88	s	DIODE 1SS198
D60	8-719-911-19	s	DIODE 1SS119
D61	8-719-109-87	s	DIODE RD5.6ESB
DL1	1-415-449-11	s	DELAY LINE 20nS
DL2	1-415-432-11	s	DELAY LINE 40nS
DL3	1-415-430-11	s	DELAY LINE 30nS
FB1	1-535-178-00	s	FERRITE BEAD
FL1	1-235-577-11	s	FILTER, BANDPASS 17.7MHz
IC1	8-759-990-82	s	IC TL082CP
IC2	8-759-990-82	s	IC TL082CP
IC3	8-759-990-82	s	IC TL082CP
IC4	8-759-145-58	s	IC UPC4558C
IC5	8-759-990-82	s	IC TL082CP
IC6	8-759-101-83	s	IC UPC649C
IC7	8-759-990-82	s	IC TL082CP
IC8	8-759-906-07	s	IC TL601CP
ICA1	8-759-974-06	s	IC SN7406N
ICA2	8-759-901-23	s	IC SN74LS123N
ICB3	8-759-990-82	s	IC TL082CP
ICB4	8-759-900-00	s	IC SN74LS00N
ICB6	8-759-990-82	s	IC TL082CP
ICB8	8-759-904-79	s	IC 74F00PC
ICB9	8-759-918-23	s	IC NE527N
ICB10	8-759-903-99	s	IC SN74LS399N
ICB12	8-759-990-82	s	IC TL082CP
ICB14	8-759-990-82	s	IC TL082CP
ICB16	8-759-900-59	s	IC HI1-0201-5
ICB17	8-759-990-82	s	IC TL082CP
ICB19	8-759-902-21	s	IC SN74LS221N
ICB20	8-759-900-74	s	IC SN74LS74AN
ICB21	8-759-040-53	s	IC MC14053BCP
ICC1	8-759-301-24	s	IC HD10124
ICC2	8-759-900-74	s	IC SN74LS74AN
ICC4	8-759-900-74	s	IC SN74LS74AN
ICC5	8-759-918-23	s	IC NE527N
ICC10	8-759-900-04	s	IC SN74LS04N

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICC11	8-759-900-00	s	IC SN74LS00N
ICC12	8-759-901-23	s	IC SN74LS123N
ICC13	8-759-990-82	s	IC TL082CP
ICC14	8-759-900-00	s	IC SN74LS00N
ICC15	8-759-900-02	s	IC SN74LS02N
ICC17	8-749-901-26	s	IC BX-381L
ICC19	8-759-900-00	s	IC SN74LS00N
ICC20	8-759-900-00	s	IC SN74LS00N
ICC21	8-759-900-04	s	IC SN74LS04N
ICD1	8-759-918-23	s	IC NE527N
ICD2	8-759-901-53	s	IC SN74LS153N
ICD3	8-759-900-04	s	IC SN74LS04N
ICD5	8-749-901-26	s	IC BX-381L
ICD7	8-759-906-07	s	IC TL607CP
ICD9	8-759-900-04	s	IC SN74LS04N
ICD10	8-759-901-63	s	IC SN74LS163AN
ICD11	8-759-990-82	s	IC TL082CP
ICD12	8-759-906-07	s	IC TL607CP
ICD14	8-759-901-63	s	IC SN74LS163AN
ICD15	8-759-917-47	s	IC 74F20PC
ICD16	8-759-901-63	s	IC SN74LS163AN
ICD19	8-759-900-74	s	IC SN74LS74AN
ICD20	8-759-103-19	s	IC UPC319C
ICD21	8-759-900-02	s	IC SN74LS02N
ICE1	8-759-918-23	s	IC NE527N
ICE2	8-759-900-10	s	IC SN74LS10N
ICE4	8-749-901-26	s	IC BX-381L
ICE7	8-759-901-63	s	IC SN74LS163AN
ICE8	8-759-900-00	s	IC SN74LS00N
ICE9	8-759-941-23	s	IC SN74123N
ICE10	8-759-900-02	s	IC SN74LS02N
ICE11	8-759-990-82	s	IC TL082CP
ICE13	8-759-974-06	s	IC SN7406N
**ICE14	8-759-989-69	s	IC SN74LS86AN
ICE15	8-759-917-65	s	IC 74F193PC
ICE16	8-759-901-74	s	IC SN74LS174N
ICE17	8-759-915-93	s	IC 74F163APC
ICE19	8-759-990-82	s	IC TL082CP
ICE21	8-759-990-82	s	IC TL082CP
ICF1	8-752-015-81	s	IC CX20158
ICF3	8-752-015-81	s	IC CX20158
ICF6	8-759-131-11	s	IC UPC311C
ICF7	8-759-902-21	s	IC SN74LS221N
ICF8	8-759-040-53	s	IC MC14053BCP
ICF9	8-759-990-82	s	IC TL082CP
ICF10	8-759-918-23	s	IC NE527N
ICF11	8-759-915-41	s	IC 74F02PC
ICF12	8-757-903-00	s	IC CX-7903
ICF15	8-759-918-33	s	IC CX20160
ICF16	8-759-900-74	s	IC SN74LS74AN
ICF17	8-759-900-04	s	IC SN74LS04N
ICF18	8-759-900-74	s	IC SN74LS74AN
ICF19	8-759-900-04	s	IC SN74LS04N
ICF20	8-759-902-21	s	IC SN74LS221N
ICF21	8-759-900-59	s	IC HI1-0201-5
ICG1	8-752-015-81	s	IC CX20158
ICG3	8-752-015-81	s	IC CX20158
ICG6	8-759-131-11	s	IC UPC311C
ICG7	8-759-902-21	s	IC SN74LS221N
ICG8	8-759-040-53	s	IC MC14053BCP

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)
Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICG9	8-759-990-82	s	IC TL082CP
ICG10	8-759-918-23	s	IC NE527N
ICG11	8-759-901-12	s	IC SN74LS112AN
ICG12	8-759-901-12	s	IC SN74LS112AN
ICG13	8-757-903-00	s	IC CX-7903
ICG14	8-759-900-04	s	IC SN74LS04N
ICG15	8-759-902-21	s	IC SN74LS221N
ICG16	8-759-901-23	s	IC SN74LS123N
ICG17	8-757-732-00	s	IC CX-773B
ICG19	8-757-732-00	s	IC CX-773B
ICG20	8-759-990-82	s	IC TL082CP
ICG21	8-759-040-53	s	IC MC14053BCP
ICH1	8-759-990-82	s	IC TL082CP
ICH3	8-759-990-82	s	IC TL082CP
ICH4	8-759-040-53	s	IC MC14053BCP
ICH6	8-759-917-49	s	IC 74F112PC
ICH7	8-759-901-64	s	IC SN74LS164N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-900-00	s	IC SN74LS00N
ICH11	8-759-951-07	s	IC SN75107AN
ICH12	8-759-900-10	s	IC SN74LS10N
ICH14	8-759-906-07	s	IC TL607CP
ICH15	8-759-900-04	s	IC SN74LS04N
ICH16	8-759-202-14	s	IC TC74HC08P
ICH17	8-759-900-00	s	IC SN74LS00N
ICH18	8-759-901-63	s	IC SN74LS163AN
ICH19	8-759-901-63	s	IC SN74LS163AN
ICH20	8-759-900-04	s	IC SN74LS04N
ICH21	8-759-900-00	s	IC SN74LS00N
ICJ2	8-759-345-38	s	IC HD14538BP
ICJ3	8-759-345-38	s	IC HD14538BP
ICJ5	8-759-900-14	s	IC SN74LS14N
ICJ6	8-759-902-21	s	IC SN74LS221N
ICJ7	8-759-901-23	s	IC SN74LS123N
ICJ8	8-759-902-21	s	IC SN74LS221N
ICJ11	8-759-938-68	s	IC CXD1095Q
ICJ13	8-759-918-35	s	IC CX20162
* *ICJ15	8-759-900-08	s	IC SN74LS08N
ICJ16	8-759-921-08	s	IC SN74HC02N
ICJ17	8-759-916-79	s	IC SN74HC273N
ICJ18	8-752-806-91	s	IC CXQ71054P
ICJ19	8-752-806-91	s	IC CXQ71054P
ICJ21	8-752-806-91	s	IC CXQ71054P
* *ICK2	8-759-921-34	s	IC SN74HC245N
ICK3	8-759-202-26	s	IC TC74HC138P
ICK4	8-759-900-74	s	IC SN74LS74AN
ICK5	8-759-900-74	s	IC SN74LS74AN
ICK6	8-759-901-53	s	IC SN74LS153N
ICK7	8-759-901-53	s	IC SN74LS153N
ICK8	8-759-901-57	s	IC SN74LS157N
ICK9	8-759-202-21	s	IC TC74HC32P
ICK10	8-759-203-60	s	IC TC74HC670P
ICK11	8-759-203-60	s	IC TC74HC670P
ICK12	8-759-900-00	s	IC SN74LS00N
ICK14	8-759-900-74	s	IC SN74LS74AN

(RD-7 BOARD, BVH-3000PS/3100PS)
Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICK15	8-752-806-91	s	IC CXQ71054P
ICK17	8-752-806-91	s	IC CXQ71054P
ICK18	8-752-806-91	s	IC CXQ71054P
ICK19	8-752-806-91	s	IC CXQ71054P
ICK21	8-752-806-91	s	IC CXQ71054P
ICL2	8-759-906-01	s	IC TL601CP
ICL4	8-759-990-82	s	IC TL082CP
ICL5	8-759-906-01	s	IC TL607CP
ICL6	8-759-906-01	s	IC TL601CP
ICL7	8-759-990-82	s	IC TL082CP
ICL9	8-759-990-82	s	IC TL082CP
ICL12	8-759-939-36	s	IC TL7705ACP
* *ICL15	8-759-232-62	s	IC TC74HC155AP
ICL21	8-759-900-04	s	IC SN74LS04N
ICM1	8-759-990-84	s	IC TL084CN
ICM2	8-759-990-82	s	IC TL082CP
ICM3	8-759-014-96	s	IC MC1496P
ICM4	8-759-990-82	s	IC TL082CP
ICM6	8-759-990-82	s	IC TL082CP
ICM7	8-759-906-01	s	IC TL601CP
ICM9	8-759-145-57	s	IC UPC4557C
ICM11	8-759-201-41	s	IC TD62901P
ICM12	8-759-202-11	s	IC TC74HC00P
ICM14	8-759-787-19	s	IC 27C64RDU2-2-0
* *ICM15	8-759-921-34	s	IC SN74HC245N
ICM16	8-759-203-35	s	IC TC74HC373P
ICM18	8-759-112-54	s	IC UPD78C10G-36
ICN1	8-759-906-01	s	IC TL601CP
ICN2	8-759-906-01	s	IC TL601CP
ICN4	8-759-990-82	s	IC TL082CP
ICN6	8-759-990-82	s	IC TL082CP
ICN8	8-759-990-82	s	IC TL082CP
ICN11	8-759-103-95	s	IC UPC648C
ICN13	8-759-938-68	s	IC CXD1095Q
ICN15	8-759-208-93	s	IC TC5517CFL
ICN17	8-759-990-84	s	IC TL084CN
ICN21	8-759-939-61	s	IC DS1210
JP1	1-566-385-11	s	PIN, 2P
JP3	1-566-385-11	s	PIN, 2P
JP4	1-566-385-11	s	PIN, 2P
JS1	1-563-859-11	s	PLUG, SHORT
JS3	1-563-859-11	s	PLUG, SHORT
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-408-425-00	s	INDUCTOR 220uH 5%
L8	1-408-417-00	s	INDUCTOR 47UH 5%
L10	1-408-409-00	s	INDUCTOR 10UH 5%
L11	1-408-409-00	s	INDUCTOR 10UH 5%
L12	1-408-421-00	s	INDUCTOR 100UH 5%
L13	1-408-417-00	s	INDUCTOR 47UH 5%
L16	1-408-429-00	s	INDUCTOR 470UH 5%

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
Q3	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q5	8-729-190-12	s	TRANSISTOR 2SC2901
Q6	8-729-190-12	s	TRANSISTOR 2SC2901
Q7	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q8	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q9	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q10	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q11	8-729-190-12	s	TRANSISTOR 2SC2901
Q12	8-729-190-12	s	TRANSISTOR 2SC2901
Q13	8-729-190-12	s	TRANSISTOR 2SC2901
Q14	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q16	8-729-900-80	s	TRANSISTOR DTC114ES
R14	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R16	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R17	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R20	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R26	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R27	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R28	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R29	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R31	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R32	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R33	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R35	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R36	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R37	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R38	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R43	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R44	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R49	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R50	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R51	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R52	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R54	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R55	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R56	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R57	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R58	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R60	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R62	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R63	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R64	1-215-401-11	s	RES, METAL 150 1% 1/6W
R65	1-215-401-11	s	RES, METAL 150 1% 1/6W
R67	1-215-401-11	s	RES, METAL 150 1% 1/6W
R68	1-215-401-11	s	RES, METAL 150 1% 1/6W
R69	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R70	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R71	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R72	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R73	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R74	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R75	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R76	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R77	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R78	1-215-470-00	s	RES, METAL 110K 1% 1/6W

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
R79	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R80	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R81	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R82	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R83	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R84	1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R85	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R86	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R87	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R88	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R89	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R90	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R91	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R92	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R93	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R94	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R95	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R96	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
**R98	1-215-455-91	s	RES, METAL 27K 5% 2W
R99	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R100	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R101	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R102	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R103	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R104	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R109	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R110	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R111	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R112	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R113	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R114	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R116	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R117	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R119	1-215-390-00	s	RES, METAL 51 1% 1/6W
R120	1-215-390-00	s	RES, METAL 51 1% 1/6W
R131	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R137	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R139	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R146	1-215-407-00	s	RES, METAL 270 1% 1/6W
R147	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R149	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R151	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R152	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R153	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R156	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R157	1-215-410-00	s	RES, METAL 360 1% 1/6W
R161	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R162	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R163	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R164	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R165	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R166	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R167	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R168	1-215-417-00	s	RES, METAL 680 1% 1/6W
R170	1-215-415-00	s	RES, METAL 560 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
C116	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C119	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C120	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C123	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C126	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C127	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C150	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C155	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C156	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C159	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C160	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C162	1-107-202-00	s	CAP, MICA 10PF 5% 50V
CN1	1-563-339-11	o	RECEP, DIN 48P FEMALE
CN2	1-560-313-00	o	RECEP, IL 8P MALE
CN315	1-506-748-11	s	RECEP, DIN 96P MALE
CN316	1-506-748-11	s	RECEP, DIN 96P MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-918-88	s	DIODE 1SS198
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-800-60	s	DIODE TLR214
D24	8-719-800-60	s	DIODE TLR214
D25	8-719-800-60	s	DIODE TLR214
D26	8-719-400-35	s	DIODE LN35BP
D27	8-719-400-35	s	DIODE LN35BP
D28	8-719-400-35	s	DIODE LN35BP
D29	8-719-400-35	s	DIODE LN35BP
D30	8-719-918-88	s	DIODE 1SS198
D31	8-719-918-88	s	DIODE 1SS198
D33	8-719-918-88	s	DIODE 1SS198
D34	8-719-911-19	s	DIODE 1SS119
D35	8-719-911-19	s	DIODE 1SS119
D36	8-719-911-19	s	DIODE 1SS119
D37	8-719-911-19	s	DIODE 1SS119
D38	8-719-911-19	s	DIODE 1SS119
D39	8-719-911-19	s	DIODE 1SS119
IC1	8-759-108-05	s	IC UPC78L05A

Ref.No. or Q'ty	Part No.	SP	Description
IC2	8-759-937-22	s	IC BA707
ICA1	8-759-145-58	s	IC UPC4558C
ICA4	8-759-103-19	s	IC UPC319C
ICA5	8-759-910-43	s	IC CX23028
ICA11	8-759-135-80	s	IC UPC358C
ICA16	8-759-103-95	s	IC UPC648C
ICB1	8-759-145-58	s	IC UPC4558C
ICB4	8-759-135-80	s	IC UPC358C
ICB5	8-759-202-14	s	IC TC74HC08P
* *ICB6	8-759-921-08	s	IC SN74HC02N
ICB7	8-759-101-83	s	IC UPC649C
ICB9	8-759-101-83	s	IC UPC649C
ICB15	8-759-112-54	s	IC UPD78C10G-36
ICC1	8-759-745-60	s	IC NJM4560D
ICC4	8-759-103-19	s	IC UPC319C
ICC5	8-759-203-82	s	IC TC74HC4520P
ICC6	8-759-990-82	s	IC TL082CP
ICC7	8-759-208-10	s	IC TC4053BPHB
ICC9	8-759-208-10	s	IC TC4053BPHB
ICC11	8-759-990-82	s	IC TL082CP
ICD1	8-759-745-60	s	IC NJM4560D
ICD4	8-759-145-58	s	IC UPC4558C
ICD7	8-759-990-82	s	IC TL082CP
ICD9	8-759-990-82	s	IC TL082CP
* *ICD13	8-759-916-50	s	IC SN74HC157N
ICD14	8-759-203-50	s	IC TC74HC574P
* *ICD15	8-759-203-48	s	IC TC74HC573P
ICD16	8-759-921-34	s	IC SN74HC245N
ICD17	8-759-921-34	s	IC SN74HC245N
ICE1	8-759-990-82	s	IC TL082CP
ICE2	8-759-990-82	s	IC TL082CP
ICE4	8-759-208-06	s	IC TC4051BPHB
ICE5	8-759-990-82	s	IC TL082CP
ICE6	8-759-990-82	s	IC TL082CP
ICE8	8-759-208-06	s	IC TC4051BPHB
ICE9	8-759-135-80	s	IC UPC358C
ICE10	8-759-135-80	s	IC UPC358C
ICE11	8-759-135-80	s	IC UPC358C
ICE13	8-759-202-21	s	IC TC74HC32P
ICE15	8-759-780-37	s	IC, EPROM 27C64-V2U2-0-0
ICE16	8-759-302-75	s	IC HM6116ALSP-12
* *ICE17	8-759-916-50	s	IC SN74HC157N
ICF1	8-759-990-82	s	IC TL082CP
ICF2	8-759-990-82	s	IC TL082CP
ICF5	8-759-990-82	s	IC TL082CP
ICF6	8-759-990-82	s	IC TL082CP
ICF9	8-759-240-52	s	IC TC4052BP
ICF10	8-759-208-06	s	IC TC4051BPHB
ICF11	8-759-208-06	s	IC TC4051BPHB
ICF13	8-759-202-11	s	IC TC74HC00P
* *ICF17	8-759-916-50	s	IC SN74HC157N
ICG2	8-759-135-80	s	IC UPC358C
ICG4	8-759-135-80	s	IC UPC358C
ICG6	8-759-202-74	s	IC TC74HC04P
* *ICG7	8-759-916-65	s	IC SN74HC240N

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICG11	8-759-645-17	s	IC M54517P
ICG13	8-759-937-62	s	IC CF77049N
ICG15	8-759-938-68	s	IC CXD1095Q
ICH5	8-759-203-33	s	IC TC74HC367P
ICH6	8-759-910-43	s	IC CX23028
ICH7	8-759-910-43	s	IC CX23028
ICH8	8-759-203-82	s	IC TC74HC4520P
ICH9	8-759-906-24	s	IC SN74LS624N
ICH10	8-759-202-12	s	IC TC74HC02P
ICH11	8-759-340-46	s	IC HD14046BP
**ICH19	8-759-916-46	s	IC SN74HC14N
ICJ2	8-759-938-68	s	IC CXD1095Q
ICJ6	8-759-202-24	s	IC TC74HC86P
**ICJ7	8-759-916-29	s	IC SN74HC74N
ICJ8	8-759-202-14	s	IC TC74HC08P
**ICJ9	8-759-916-29	s	IC SN74HC74N
ICJ10	8-759-203-40	s	IC TC74HC393P
ICJ11	8-759-202-11	s	IC TC74HC00P
**ICJ12	8-759-916-29	s	IC SN74HC74N
ICJ19	8-759-202-74	s	IC TC74HC04P
**ICJ20	8-759-916-29	s	IC SN74HC74N
ICK1	8-759-202-26	s	IC TC74HC138P
ICK2	8-759-202-55	s	IC TC74HC244P
ICK3	8-759-202-26	s	IC TC74HC138P
ICK4	8-759-202-26	s	IC TC74HC138P
ICK5	8-759-202-26	s	IC TC74HC138P
ICK6	8-759-202-26	s	IC TC74HC138P
ICK7	8-759-202-16	s	IC TC74HC11P
**ICK8	8-759-921-08	s	IC SN74HC02N
ICK9	8-759-203-82	s	IC TC74HC4520P
ICK10	8-759-203-01	s	IC TC74HC175P
**ICK11	8-759-916-29	s	IC SN74HC74N
ICK12	8-759-202-30	s	IC TC74HC161P
ICK13	8-759-202-55	s	IC TC74HC244P
ICK14	8-759-203-40	s	IC TC74HC393P
ICK19	8-759-105-75	s	IC UPD70108D-8
ICL1	8-759-203-48	s	IC TC74HC573P
ICL2	8-759-203-48	s	IC TC74HC573P
ICL3	8-759-914-41	s	IC X2212P
ICL4	8-759-202-93	s	IC TC74HC153P
ICL5	8-759-202-11	s	IC TC74HC00P
ICL6	8-759-202-74	s	IC TC74HC04P
ICL7	8-759-203-82	s	IC TC74HC4520P
ICL8	8-759-202-74	s	IC TC74HC04P
ICL9	8-759-202-14	s	IC TC74HC08P
ICL10	8-759-203-82	s	IC TC74HC4520P
ICL11	8-759-202-74	s	IC TC74HC04P
ICL12	8-752-806-91	s	IC CXQ71054P
ICL14	8-759-203-40	s	IC TC74HC393P
ICL16	8-759-105-76	s	IC UPD71059C
**ICM1	8-759-921-34	s	IC SN74HC245N
**ICM2	8-759-921-34	s	IC SN74HC245N
ICM3	8-759-202-26	s	IC TC74HC138P
ICM4	8-759-202-89	s	IC TC74HC139P
ICM5	8-759-202-14	s	IC TC74HC08P

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICM6	8-759-202-21	s	IC TC74HC32P
ICM7	8-759-202-11	s	IC TC74HC00P
ICM8	8-759-202-14	s	IC TC74HC08P
**ICM9	8-759-916-29	s	IC SN74HC74N
**ICM10	8-759-916-29	s	IC SN74HC74N
ICM14	8-759-203-40	s	IC TC74HC393P
ICM17	8-759-203-33	s	IC TC74HC367P
ICM19	8-759-107-56	s	IC CXQ71011P
ICN1	8-759-202-55	s	IC TC74HC244P
**ICN2	8-759-916-29	s	IC SN74HC74N
**ICN3	8-759-742-76	s	IC, MBM27C256A-V1U3-1-0
**ICN5	8-759-742-75	s	IC, MBM27C256A-V0U3-1-0
ICN7	8-759-300-63	s	IC HM6264LP-15
ICN8	8-759-938-83	s	IC CF77074NT
ICN9	8-759-938-83	s	IC CF77074NT
ICN11	8-759-938-83	s	IC CF77074NT
ICN12	8-752-806-91	s	IC CXQ71054P
ICN14	8-752-806-91	s	IC CXQ71054P
ICN15	8-752-806-91	s	IC CXQ71054P
ICN17	8-752-806-91	s	IC CXQ71054P
ICN19	8-752-806-91	s	IC CXQ71054P
L1	1-408-421-00	s	INDUCTOR 100UH 5%
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-421-370-00	s	COIL, CHOKE
Q1	8-729-900-80	s	TRANSISTOR DTC114ES
Q2	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q3	8-729-697-92	s	TRANSISTOR 2SA979
R1	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R2	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R3	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R5	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R6	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R7	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R8	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R9	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R10	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R15	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R17	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R18	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R19	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R20	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R21	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R24	1-215-411-00	s	RES, METAL 390 1% 1/6W
R25	1-215-406-00	s	RES, METAL 240 1% 1/6W
R31	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R33	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R34	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R35	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R36	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R37	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R41	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R43	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R44	1-215-418-00	s	RES, METAL 750 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

SW-195 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
CN831	1-506-475-11	o	RECEP, 10P MALE
CN832	1-506-468-11	o	RECEP, 3P MALE
D1	8-719-940-89	s	DIODE SLP655B-50
D2	8-719-940-89	s	DIODE SLP655B-50
D3	8-719-940-89	s	DIODE SLP655B-50
IC1	8-759-645-16	s	IC M54516P
R1	1-247-751-11	s	RES, CARBON 820 5% 1/2W
S1	1-516-994-00	s	SWITCH, LEVER SLIDE
S2	1-516-994-00	s	SWITCH, LEVER SLIDE
S3	1-516-994-00	s	SWITCH, LEVER SLIDE

SY-103 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-146-A	o	COMPLETE PCB, SY-103
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C2	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C3	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C6	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C8	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C20	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C37	1-131-381-00	s	CAP, ELECT 47uF 10% 10V
C38	1-125-445-11	s	CAP, DOUBLE LAYERS 0.22F 5.5V
C39	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C40	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C41	1-131-363-00	s	CAP, TANT 4.7uF 10% 20V
C42	1-124-258-00	s	CAP, ELECT 3.3uF 20% 50V
C43	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C182	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C183	1-162-734-11	s	CAP, CERAMIC 1000PF 1% 50V
C186	1-124-233-00	s	CAP, ELECT 10uF 20% 6.3V
**C187	1-102-110-00	s	CAP, CERAMIC 220PF 10% 55V
CN313	1-506-747-11	s	RECEP, DIN 64P MALE
CN314	1-506-748-11	s	RECEP, DIN 96P MALE
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-200-02	s	DIODE 10E-2
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D8	8-719-400-35	s	DIODE LN35BP
D9	8-719-911-19	s	DIODE 1SS119
ICA1	8-759-202-17	s	IC TC74HC14P
ICA2	8-759-901-23	s	IC SN74LS123N
ICA3	8-759-202-92	s	IC TC74HC151P
ICA4	8-759-112-96	s	IC UPD6142C-001
ICA6	8-759-902-21	s	IC SN74LS221N
ICA7	8-759-202-74	s	IC TC74HC04P
ICA10	8-759-000-99	s	IC MC74HC74N
ICA11	8-759-202-11	s	IC TC74HC00P
ICA12	8-759-202-21	s	IC TC74HC32P
ICA13	8-759-202-26	s	IC TC74HC138P
ICB1	8-759-202-17	s	IC TC74HC14P
ICB2	8-759-202-11	s	IC TC74HC00P
ICB3	8-759-202-34	s	IC TC74HC257P
ICB4	8-759-202-34	s	IC TC74HC257P
ICB5	8-759-941-20	s	IC SN74120N
ICB6	8-759-941-20	s	IC SN74120N
ICB7	8-759-000-99	s	IC MC74HC74N
ICB8	8-759-202-21	s	IC TC74HC32P
ICB9	8-759-006-23	s	IC SN74LS290N
ICB10	8-759-202-14	s	IC TC74HC08P
ICB11	8-759-203-34	s	IC TC74HC368P
ICB12	8-759-202-74	s	IC TC74HC04P
ICB13	8-759-202-26	s	IC TC74HC138P
ICC1	8-759-202-14	s	IC TC74HC08P
ICC2	8-759-202-74	s	IC TC74HC04P
ICC3	8-759-910-76	s	IC CX-7913A

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SY-103 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICC8	8-759-000-99	s	IC MC74HC74N
ICC9	8-759-340-46	s	IC HD14046BP
ICC10	8-759-909-16	s	IC CX-7907A
ICC12	8-759-901-89	s	IC SN74LS189AN
ICC13	8-759-202-26	s	IC TC74HC138P
ICC14	8-759-202-55	s	IC TC74HC244P
ICD1	8-759-202-11	s	IC TC74HC00P
ICD2	8-759-202-74	s	IC TC74HC04P
ICD3	8-759-202-14	s	IC TC74HC08P
ICD4	8-759-202-34	s	IC TC74HC257P
ICD5	8-759-901-89	s	IC SN74LS189AN
ICD6	8-759-202-34	s	IC TC74HC257P
ICD7	8-759-901-89	s	IC SN74LS189AN
ICD8	8-759-202-27	s	IC TC74HC157P
ICD9	8-759-203-40	s	IC TC74HC393P
ICD10	8-759-202-74	s	IC TC74HC04P
ICD11	8-759-203-40	s	IC TC74HC393P
ICD12	8-759-202-34	s	IC TC74HC257P
ICD14	8-759-202-33	s	IC TC74HC240P
ICE1	8-759-202-11	s	IC TC74HC00P
ICE3	8-759-938-68	s	IC CXD1095Q
ICE5	8-759-000-99	s	IC MC74HC74N
ICE6	8-759-202-97	s	IC TC74HC165P
ICE7	8-759-202-55	s	IC TC74HC244P
ICE8	8-759-901-89	s	IC SN74LS189AN
ICE10	8-759-240-21	s	IC TC4021BP
ICE11	8-759-240-21	s	IC TC4021BP
ICE12	8-759-240-21	s	IC TC4021BP
ICE13	8-759-240-21	s	IC TC4021BP
ICE14	8-759-202-74	s	IC TC74HC04P
ICF1	8-759-926-32	s	IC AM26LS32PC
ICF2	8-759-926-30	s	IC AM26LS30PC
ICF3	8-759-926-30	s	IC AM26LS30PC
ICF4	8-759-202-21	s	IC TC74HC32P
ICF5	8-759-202-11	s	IC TC74HC00P
ICF6	8-759-007-19	s	IC MC74HC4051N
ICF7	8-759-202-74	s	IC TC74HC04P
ICF8	8-759-202-11	s	IC TC74HC00P
ICF9	8-759-202-14	s	IC TC74HC08P
ICF10	8-759-202-74	s	IC TC74HC04P
ICF13	8-759-938-68	s	IC CXD1095Q
ICF14	8-759-203-40	s	IC TC74HC393P
ICF15	8-759-203-82	s	IC TC74HC4520P
ICG1	8-759-926-32	s	IC AM26LS32PC
ICG3	8-759-926-30	s	IC AM26LS30PC
ICG4	8-759-202-21	s	IC TC74HC32P
ICG5	8-759-202-14	s	IC TC74HC08P
ICG6	8-759-007-20	s	IC MC74HC4052N
ICG7	8-759-202-74	s	IC TC74HC04P
ICG8	8-759-202-14	s	IC TC74HC08P
ICG9	8-759-202-21	s	IC TC74HC32P
ICG10	8-759-202-11	s	IC TC74HC00P
ICG11	8-759-202-93	s	IC TC74HC153P
ICG12	8-759-000-99	s	IC MC74HC74N
ICG13	8-759-203-40	s	IC TC74HC393P

(SY-103 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
ICG14	8-759-107-56	s	IC CXQ71011P
ICH1	8-759-202-17	s	IC TC74HC14P
ICH2	8-759-202-27	s	IC TC74HC157P
ICH3	8-759-202-27	s	IC TC74HC157P
ICH4	8-759-202-27	s	IC TC74HC157P
ICH5	8-759-202-55	s	IC TC74HC244P
ICH6	8-759-107-51	s	IC CXQ71051P
ICH7	8-759-103-24	s	IC UPD7201AD
ICH8	8-752-806-91	s	IC CXQ71054P
ICH10	8-752-328-10	s	IC CXK5864BP-10L
** ICH11	8-759-742-99	s	IC, MBM27C256A-Y1A2-4-0
ICH12	8-759-742-98	s	IC, MBM27C256A-Y0A2-4-0
ICH13	8-759-203-48	s	IC TC74HC573P
ICH14	8-759-105-75	s	IC UPD70108D-8
ICJ1	8-759-008-57	s	IC MC34051P
ICJ2	8-759-202-21	s	IC TC74HC32P
**ICJ3	8-752-328-10	s	IC CXK5864BP-10L
ICJ4	8-759-202-56	s	IC TC74HC245P
ICJ5	8-759-105-76	s	IC UPD71059C
ICJ8	8-759-202-15	s	IC TC74HC10P
ICJ9	8-759-000-99	s	IC MC74HC74N
ICJ10	8-759-202-26	s	IC TC74HC138P
ICJ11	8-759-202-17	s	IC TC74HC14P
ICJ12	8-759-202-14	s	IC TC74HC08P
ICJ13	8-759-202-56	s	IC TC74HC245P
ICK1	8-759-202-56	s	IC TC74HC245P
ICK2	8-759-202-56	s	IC TC74HC245P
ICK6	8-759-001-00	s	IC MC74HC132N
ICK9	8-759-202-11	s	IC TC74HC00P
ICK10	8-759-202-26	s	IC TC74HC138P
ICK11	8-759-000-99	s	IC MC74HC74N
ICK12	8-759-202-21	s	IC TC74HC32P
ICK13	8-759-203-33	s	IC TC74HC367P
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L4	1-410-332-11	s	INDUCTOR 47UH 10%
Q1	8-729-900-36	s	TRANSISTOR DTC124ES
R27	1-215-476-00	s	RES, METAL 200K 1% 1/6W
R45	1-247-743-11	s	RES, CARBON 220 5% 1/2W
R46	1-247-745-11	s	RES, CARBON 330 5% 1/2W
R56	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R57	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
RB1	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB2	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB3	1-231-549-11	s	BLOCK, RESISTOR 47KX4
RB4	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB5	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB6	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB7	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB8	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB9	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB10	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB11	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB12	1-231-410-00	s	RESISTOR BLOCK 10KX8

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VO-16 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-101-13
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
C420	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C421	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C422	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C423	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C424	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C425	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C426	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C427	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C428	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C429	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C430	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C431	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C432	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C433	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C434	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C439	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C440	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C441	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C442	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C444	1-161-457-00	s	CAP, CERAMIC 68PF 5% 50V
C446	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C448	1-161-458-00	s	CAP, CERAMIC 82PF 5% 50V
C453	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C455	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C460	1-161-460-00	s	CAP, CERAMIC 120PF 5% 50V
C461	1-161-463-00	s	CAP, CERAMIC 220PF 5% 50V
C462	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C463	1-161-463-00	s	CAP, CERAMIC 220PF 5% 50V
C464	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C467	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C468	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C469	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C471	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C472	1-161-464-00	s	CAP, CERAMIC 270PF 5% 50V
C473	1-161-464-00	s	CAP, CERAMIC 270PF 5% 50V
C475	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C478	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C479	1-109-783-00	s	CAP, MICA 0.001uF 1% 100V
C481	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C483	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C484	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C486	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C487	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C488	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C489	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C510	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C515	1-124-767-00	s	CAP, ELECT, NONPOLAR 2.2uF 20% 50V
C520	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C521	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C526	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C527	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C530	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C532	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C535	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C536	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C538	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C540	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V

(VO-16 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-101-13
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
C541	1-161-461-00	s	CAP, CERAMIC 150PF 10% 50V
C543	1-102-114-00	s	CAP, CERAMIC 470PF 10% 50V
C545	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C546	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C547	1-161-465-00	s	CAP, CERAMIC 330PF 5% 50V
C549	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C550	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C552	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C553	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C554	1-161-485-00	s	CAP, CERAMIC 0.1uF 50%
C555	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C556	1-124-767-00	s	CAP, ELECT NONPOLAR 2.2uF 20% 50V
C557	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C558	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C559	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C560	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C561	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C562	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C563	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C564	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C565	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C567	1-130-472-00	s	CAP, MYLAR 0.0012uF 5% 50V
C568	1-161-463-00	s	CAP, CERAMIC 220PF 10% 50V
C570	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C571	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C572	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C577	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C600	1-130-475-11	s	CAP, MYLAR 0.0022uF 5% 50V
C701	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C702	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C703	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C704	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C705	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C706	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C707	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C709	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
* * C712	1-162-765-11	s	CAP, CERAMIC 1000PF 5% 50V
C851	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C852	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C853	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C854	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
CN303	1-506-748-11	s	RECEP, DIN 96P MALE
CN304	1-506-748-11	s	RECEP, DIN 96P MALE
CT1	1-141-254-00	s	CAP, TRIMMER 30PF
CT2	1-141-260-00	s	CAP, TRIMMER 50PF
CT3	1-141-304-21	s	CAP, TRIMMER 10PF
D1	8-719-101-97	s	DIODE 1SS97-1
D2	8-719-101-97	s	DIODE 1SS97-1
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D6	8-719-915-30	s	DIODE FC53M
D7	8-719-915-30	s	DIODE FC53M
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D12	8-719-109-91	s	DIODE RD6.2ESB
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

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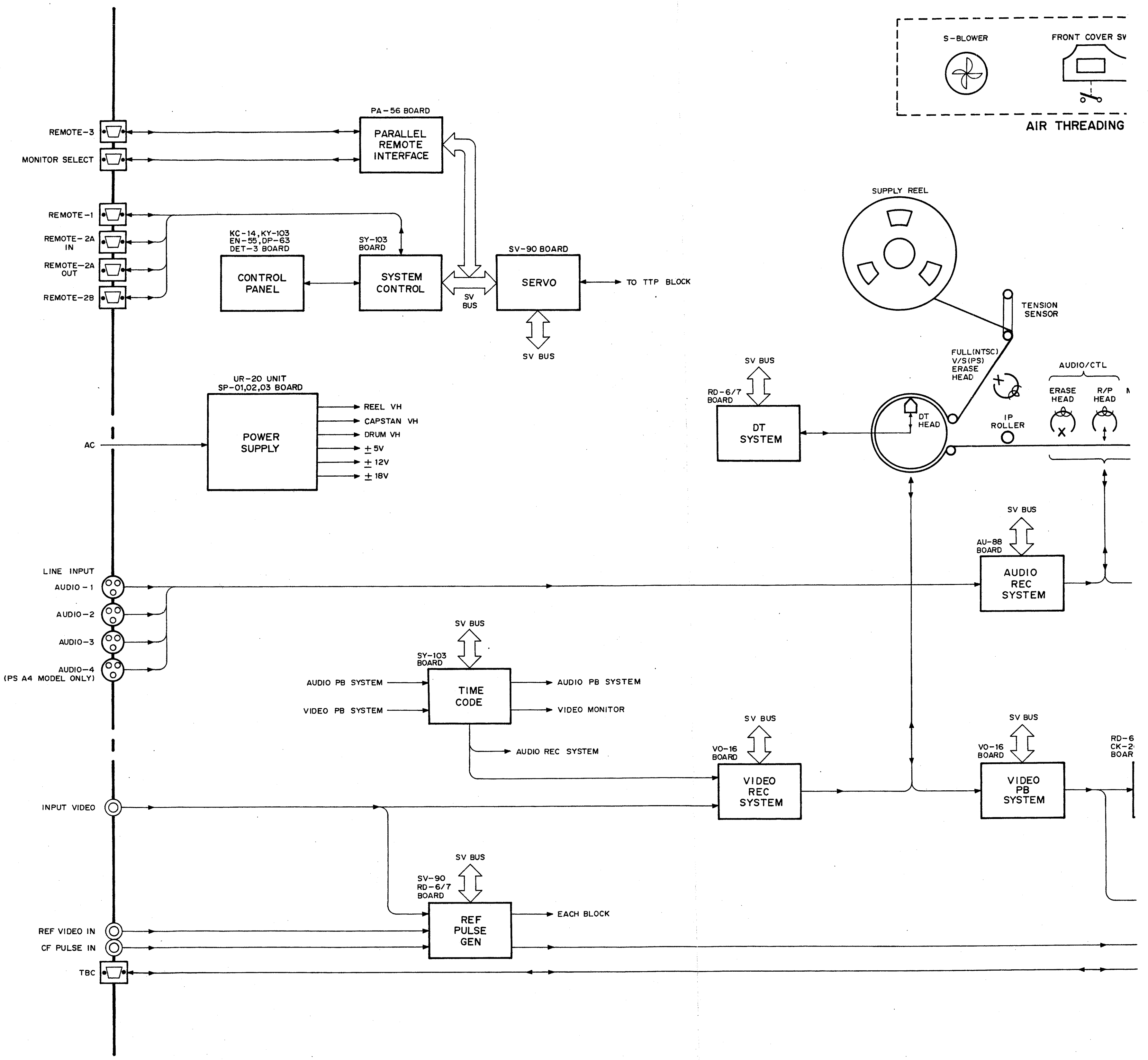
E. CHANGED PARTS

SECTION A
BLOCK DIAGRAM

OVERALL BLOCK DIAGRAM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TO TTP BLOCK
SV BUS
S-BLOWER
FRONT COVER S
AIR THREADING
SUPPLY REEL
TENSION SENSOR
FULL(NTSC) V/S(PS) ERASE HEAD
AUDIO/CTL
ERASE HEAD
R/P HEAD
DT HEAD
IP ROLLER
SV BUS
RD-6/7 BOARD
DT SYSTEM
UR-20 UNIT SP-01,02,03 BOARD
POWER SUPPLY
AC
REEL VH
CAPSTAN VH
DRUM VH
±5V
±12V
±18V
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AU-88 BOARD
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LINE INPUT
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AUDIO PB SYSTEM
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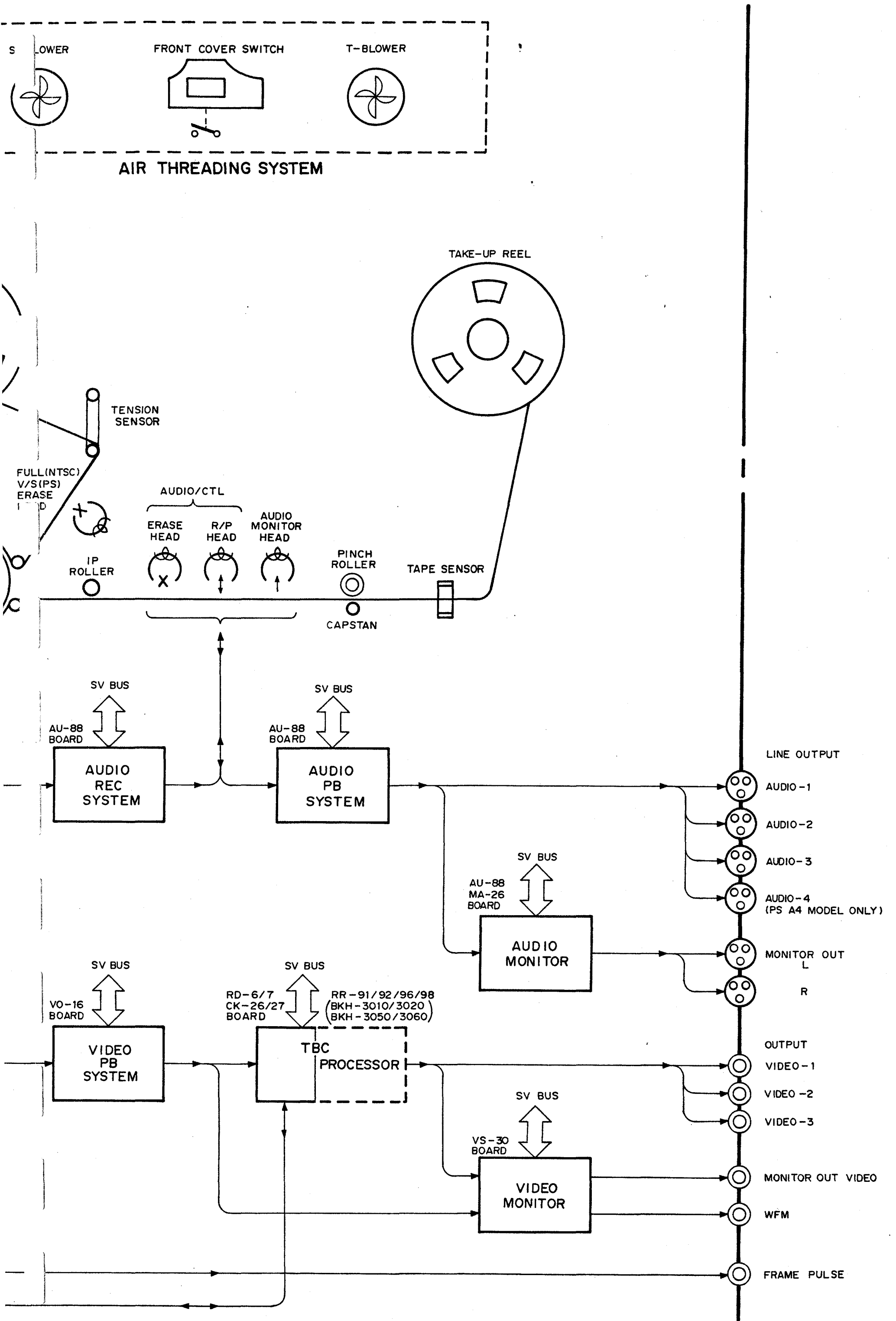
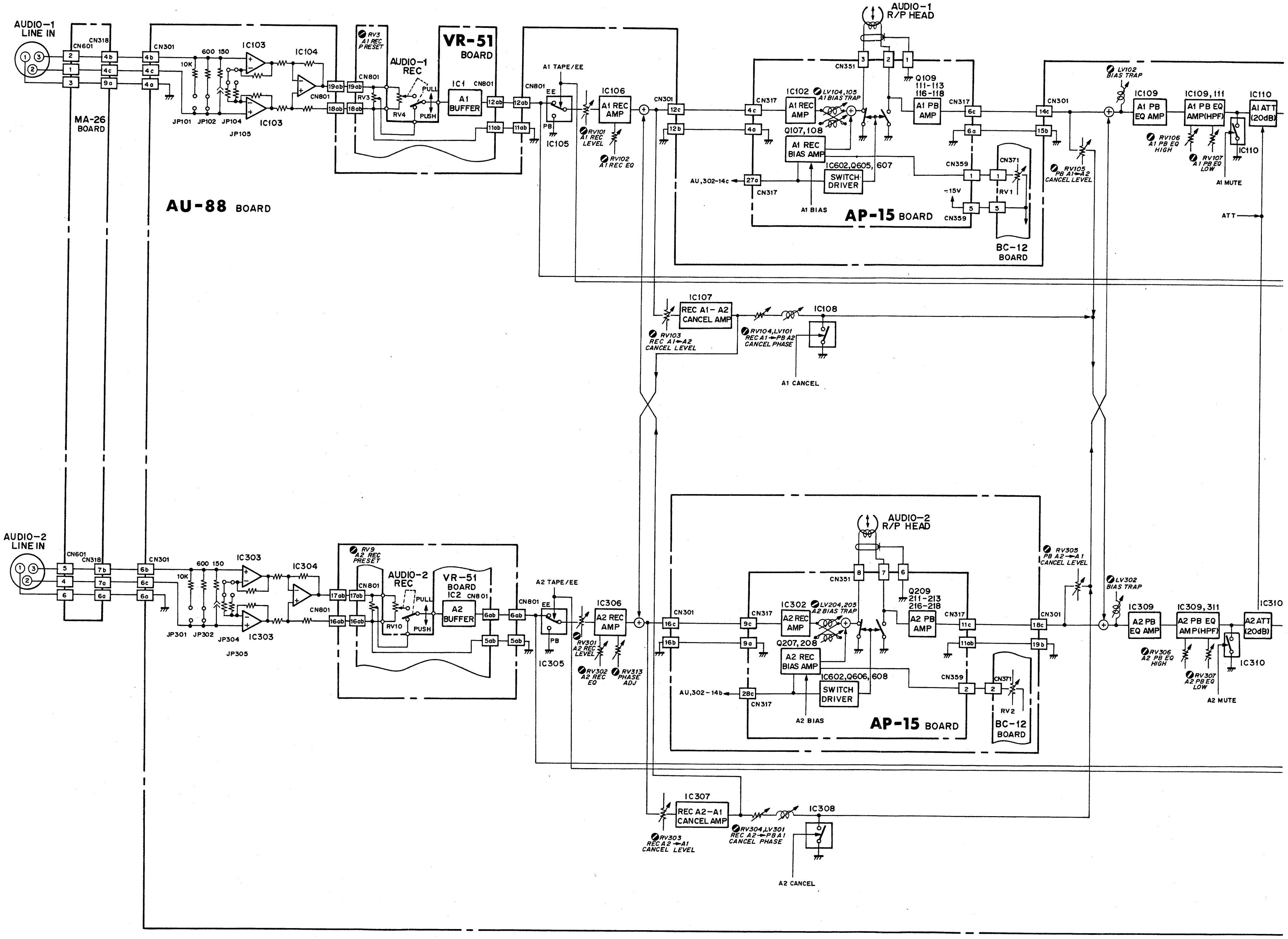
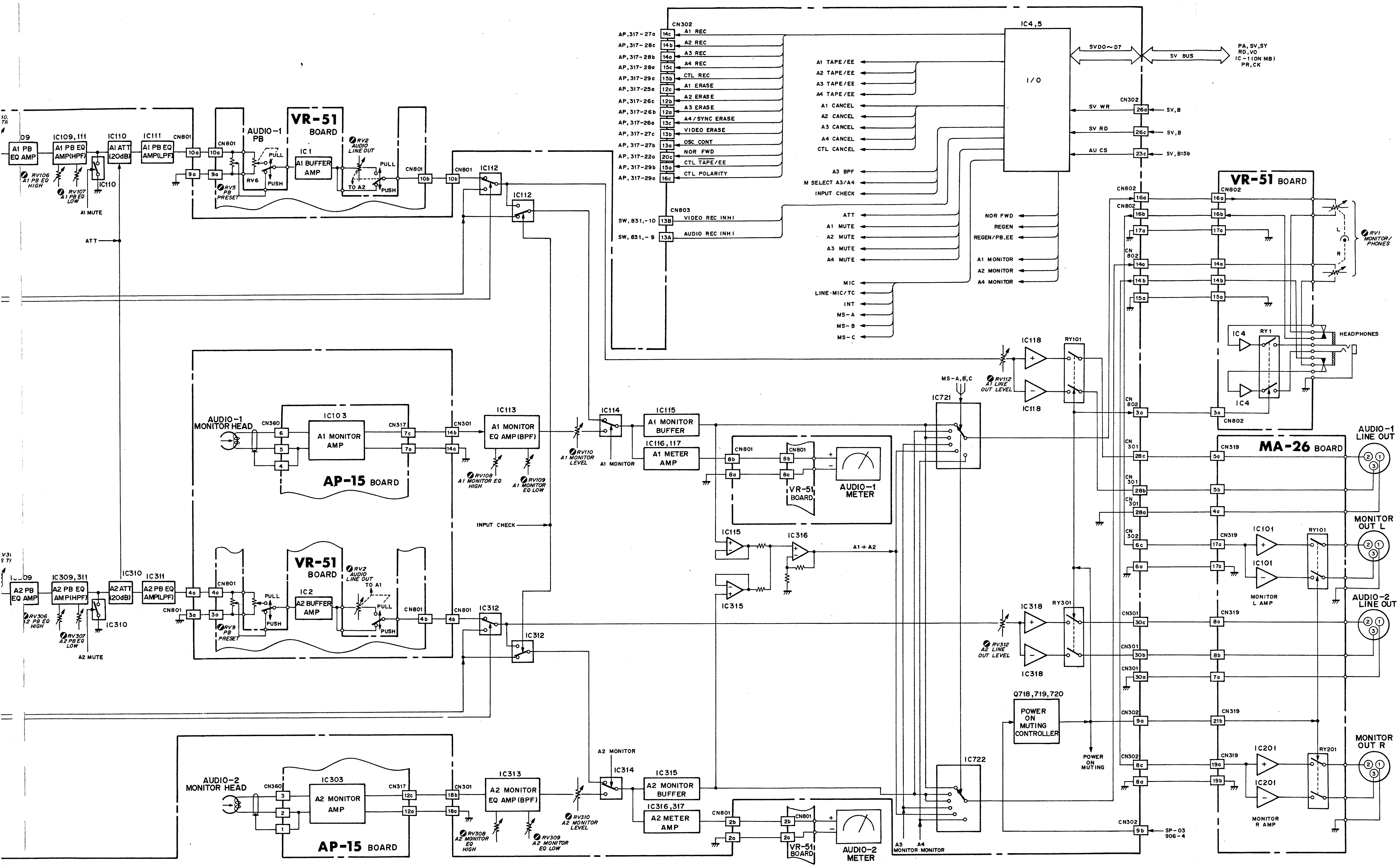
AUDIO PB SYSTEM
VIDEO MONITOR
AUDIO REC SYSTEM
SV BUS
VO-16 BOARD
VIDEO REC SYSTEM
SV BUS
VO-16 BOARD
VIDEO PB SYSTEM
RD-6
CK-2
BOAR
INPUT VIDEO
SV BUS
SV-90 RD-6/7 BOARD
REF PULSE GEN
EACH BLOCK
REF VIDEO IN
CF PULSE IN
TBC


S
LOWER
FRONT COVER SWITCH
T-BLOWER
AIR THREADING SYSTEM
TAKE-UP REEL
TENSION SENSOR
FULL(NTSC)
V/S(PS)
ERASE
AUDIO/CTL
ERASE HEAD
R/P HEAD
AUDIO MONITOR HEAD
IP ROLLER
PINCH ROLLER
TAPE SENSOR
CAPSTAN
SV BUS
AU-88 BOARD
AUDIO REC SYSTEM
SV BUS
AU-88 BOARD
AUDIO PB SYSTEM
LINE OUTPUT
AUDIO-1
AUDIO-2
AUDIO-3
AUDIO-4
(PS A4 MODEL ONLY)
SV BUS
AU-88
MA-26
BOARD
AUDIO MONITOR
MONITOR OUT
L
R
SV BUS
VO-16 BOARD
VIDEO PB SYSTEM
SV BUS
RD-6/7
CK-26/27
BOARD
RR-91/92/96/98
(BKH-3010/3020)
(BKH-3050/3060)
TBC
PROCESSOR
OUTPUT
VIDEO-1
VIDEO-2
VIDEO-3
SV BUS
VS-30 BOARD
VIDEO MONITOR
MONITOR OUT VIDEO
WFM
FRAME PULSE

OVERALL BLOCK DIAGRAM
BVH-3000(J)
BVH-3000(U/C)
BVH-3000PS
BVH-3100(J)
BVH-3100(U/C)
BVH-3100PS

AUDIO SIGNAL SYSTEM BLOCK DIAGRAM (1/2)
A-1 & A-2 AU-88, AP-15, VR-51, MA-26 BOARD


AUDIO-1 LINE IN
CN601
CN318
MA-26 BOARD
CN301
IC103
IC104
600 150
10K
JP101 JP102 JP104
JP105
RV3 A1 REC PRESET
AUDIO-1 REC
PULL
PUSH
RV4
VR-51 BOARD
IC1 A1 BUFFER
CN801
A1 TAPE/EE
EE
PB
IC105
IC106 A1 REC AMP
RV101 A1 REC LEVEL
RV102 A1 REC EQ
AU-88 BOARD
AUDIO-1 R/P HEAD
CN351
Q109 111-113 116-118
IC102 A1 REC AMP
LV104,105 A1 BIAS TRAP
Q107,108 A1 REC BIAS AMP
A1 PB AMP
CN317
IC602,Q605,607 SWITCH DRIVER
AU,302-14c
A1 BIAS
CN359
CN371
RV1
-15V
AP-15 BOARD
BC-12 BOARD
LV102 BIAS TRAP
IC109 A1 PB EQ AMP
IC109,111 A1 PB EQ AMP(HPF)
IC110 A1 ATT (20dB)
RV105 PB A1→A2 CANCEL LEVEL
RV106 A1 PB EQ HIGH
RV107 A1 PB EQ LOW
IC110
A1 MUTE
ATT
IC107 REC A1-A2 CANCEL AMP
RV103 REC A1→A2 CANCEL LEVEL
RV104,LV101 REC A1→PB A2 CANCEL PHASE
IC108
A1 CANCEL
AUDIO-2 LINE IN
IC303
IC304
JP301 JP302 JP304
JP305
RV9 A2 REC PRESET
AUDIO-2 REC
RV10
VR-51 BOARD IC2 A2 BUFFER
A2 TAPE/EE
IC305
IC306 A2 REC AMP
RV301 A2 REC LEVEL
RV302 A2 REC EQ
RV313 PHASE ADJ
AUDIO-2 R/P HEAD
Q209 211-213 216-218
IC302 A2 REC AMP
LV204,205 A2 BIAS TRAP
Q207,208 A2 REC BIAS AMP
A2 PB AMP
IC602,Q606,608 SWITCH DRIVER
AU,302-14b
A2 BIAS
RV2
AP-15 BOARD
BC-12 BOARD
RV305 PB A2→A1 CANCEL LEVEL
LV302 BIAS TRAP
IC309 A2 PB EQ AMP
IC309,311 A2 PB EQ AMP(HPF)
IC310 A2 ATT (20dB)
RV306 A2 PB EQ HIGH
RV307 A2 PB EQ LOW
IC310
A2 MUTE
IC307 REC A2-A1 CANCEL AMP
RV303 REC A2→A1 CANCEL LEVEL
RV304,LV301 REC A2→PB A1 CANCEL PHASE
IC308
A2 CANCEL

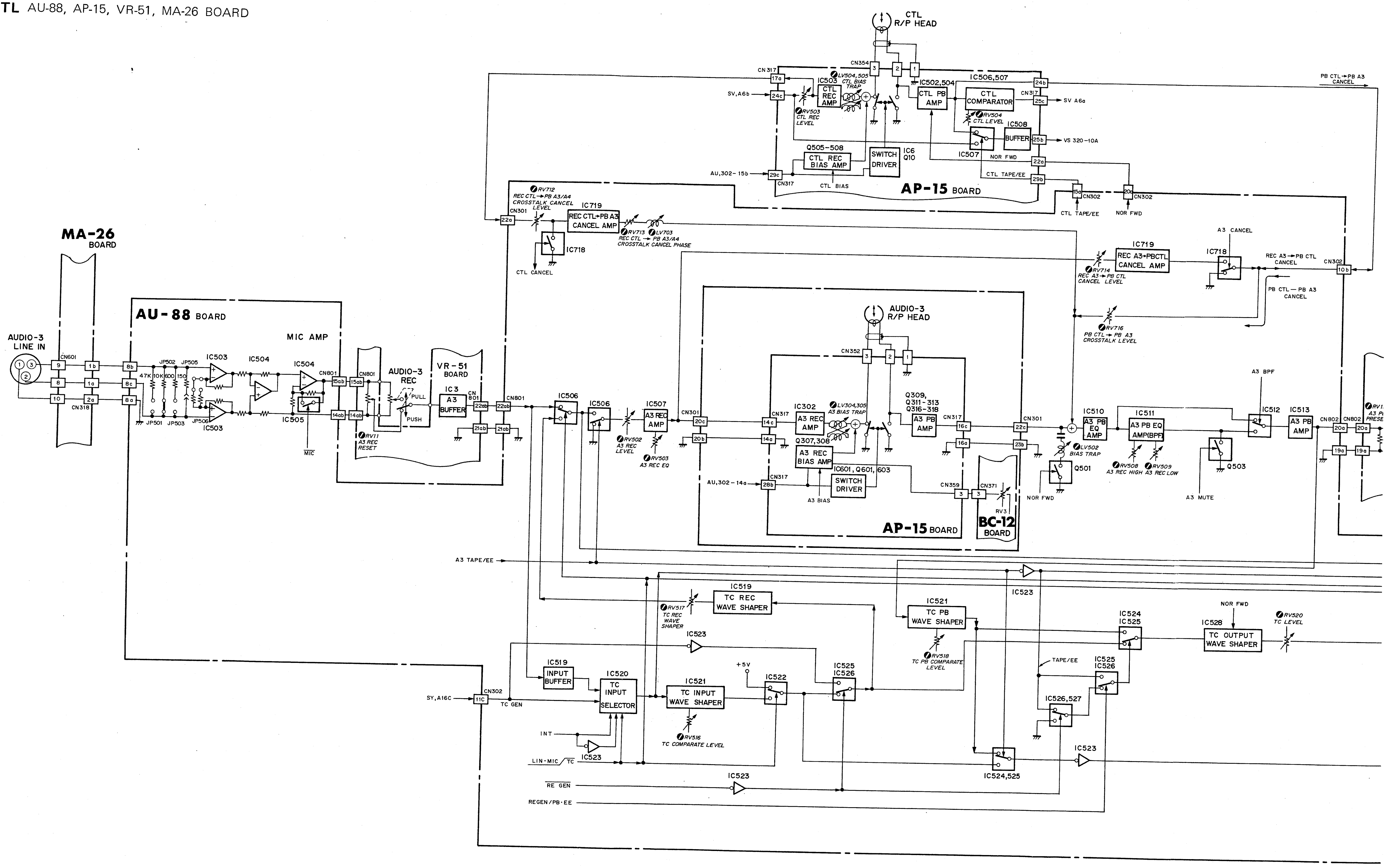

A1 PB EQ AMP
IC109,111
A1 PB EQ AMP(HPF)
IC110
A1 ATT (20dB)
IC111
A1 PB EQ AMP(LPF)
RV106 A1 PB EQ HIGH
RV107 A1 PB EQ LOW
A1 MUTE
ATT
VR-51 BOARD
AUDIO-1 PB
IC1
A1 BUFFER AMP
RV2 AUDIO LINE OUT
RV5 PB PRESET
RV6
PULL
PUSH
TO A2
CN801
IC112
CN302
AP,317-27a
AP,317-28c
AP,317-28b
AP,317-28a
AP,317-29c
AP,317-25a
AP,317-26c
AP,317-26b
AP,317-26a
AP,317-27c
AP,317-27b
AP,317-22a
AP,317-29b
AP,317-29a
A1 REC
A2 REC
A3 REC
A4 REC
CTL REC
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
VIDEO ERASE
OSC CONT
NOR FWD
CTL TAPE/EE
CTL POLARITY
CN803
SW,831,-10
SW,831,-9
VIDEO REC INHI
AUDIO REC INHI
IC4,5
I/O
SVD0~D7
SV BUS
PA,SV,SY RD,VO IC-1(ON MB) PR,CK
SV WR
SV RD
AU CS
SV,B
SV,B15b
A1 TAPE/EE
A2 TAPE/EE
A3 TAPE/EE
A4 TAPE/EE
A1 CANCEL
A2 CANCEL
A3 CANCEL
A4 CANCEL
CTL CANCEL
A3 BPF
M SELECT A3/A4
INPUT CHECK
ATT
A1 MUTE
A2 MUTE
A3 MUTE
A4 MUTE
MIC
LINE-MIC/TC
INT
MS-A
MS-B
MS-C
NOR FWD
REGEN
REGEN/PB.EE
A1 MONITOR
A2 MONITOR
A4 MONITOR
CN802
VR-51 BOARD
RV1 MONITOR/PHONES
L
R
IC4
RY1
HEADPHONES
IC118
RY101
RV112 A1 LINE OUT LEVEL
MS-A,B,C
IC721
AUDIO-1 MONITOR HEAD
CN360
IC103
A1 MONITOR AMP
CN317
AP-15 BOARD
CN301
IC113
A1 MONITOR EQ AMP(BPF)
RV108 A1 MONITOR EQ HIGH
RV109 A1 MONITOR EQ LOW
RV110 A1 MONITOR LEVEL
IC114
A1 MONITOR
IC115
A1 MONITOR BUFFER
IC116,117
A1 METER AMP
VR-51 BOARD
AUDIO-1 METER
INPUT CHECK
IC115
IC316
A1+A2
IC315
MA-26 BOARD
CN319
AUDIO-1 LINE OUT
MONITOR OUT L
IC101
MONITOR L AMP
AUDIO-2 LINE OUT
A2 PB EQ AMP
IC309,311
A2 PB EQ AMP(HPF)
IC310
A2 ATT (20dB)
IC311
A2 PB EQ AMP(LPF)
RV306 A2 PB EQ HIGH
RV307 A2 PB EQ LOW
A2 MUTE
VR-51 BOARD
IC2
A2 BUFFER AMP
RV2 AUDIO LINE OUT
TO A1
RV9 PB PRESET
IC312
IC318
RY301
RV312 A2 LINE OUT LEVEL
Q718,719,720
POWER ON MUTING CONTROLLER
POWER ON MUTING
MONITOR OUT R
IC201
RY201
MONITOR R AMP
AUDIO-2 MONITOR HEAD
IC303
A2 MONITOR AMP
AP-15 BOARD
IC313
A2 MONITOR EQ AMP(BPF)
RV308 A2 MONITOR EQ HIGH
RV309 A2 MONITOR EQ LOW
RV310 A2 MONITOR LEVEL
A2 MONITOR
IC314
IC315
A2 MONITOR BUFFER
IC316,317
A2 METER AMP
VR-51 BOARD
AUDIO-2 METER
IC722
A3 MONITOR
A4 MONITOR
SP-03 906-4

AUDIO SIGNAL SYSTEM BLOCK DIAGRAM (1/2)
AUDIO-1 & AUDIO-2
AU-88, AP-15, VR-51, MA-26 BOARD

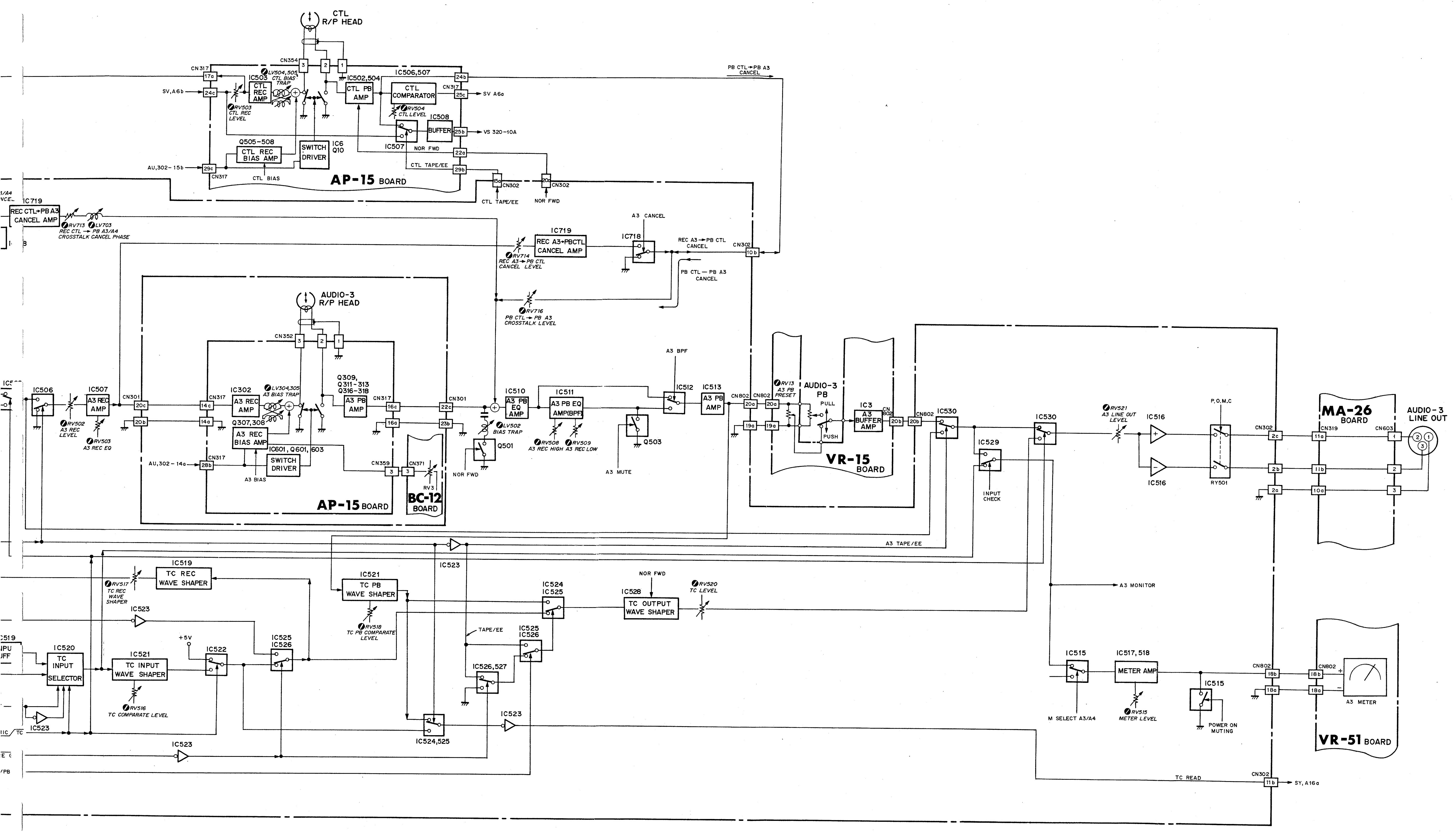
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS(A3)
BVH-3000PS/3100PS(A4)
BVH-3000PM/3100PM

AUDIO SIGNAL SYSTEM BLOCK DIAGRAM (2/2) – FOR A3 MODEL –

A-3 & CTL AU-88, AP-15, VR-51, MA-26 BOARD



CTL R/P HEAD
CN354
CN317
17a
24c
SV, A6b
IC503 CTL REC AMP
LV504,505 CTL BIAS TRAP
RV503 CTL REC LEVEL
IC502,504 CTL PB AMP
IC506,507 CTL COMPARATOR
RV504 CTL LEVEL
IC508 BUFFER
IC507
24b
25c
SV A6a
25b
VS 320-10A
NOR FWD
22a
CTL TAPE/EE
29b
Q505-508 CTL REC BIAS AMP
SWITCH DRIVER
IC6 Q10
AU,302-15b
29c
CTL BIAS
AP-15 BOARD
15a
CN302
20a
CTL TAPE/EE
NOR FWD
PB CTL→PB A3 CANCEL
RV712 REC CTL→PB A3/A4 CROSSTALK CANCEL LEVEL
CN301
22a
IC719 REC CTL→PB A3 CANCEL AMP
RV713 LV703 REC CTL→PB A3/A4 CROSSTALK CANCEL PHASE
IC718
CTL CANCEL
MA-26 BOARD
AUDIO-3 LINE IN
CN601
CN318
AU-88 BOARD
MIC AMP
JP502 JP505
JP501 JP503 JP506
47K 10K 600 150
IC503
IC504
IC505
CN801
15ab
14ab
AUDIO-3 REC
PULL
PUSH
RV11 A3 REC RESET
MIC
VR-51 BOARD
IC3 A3 BUFFER
22ab
21ab
IC506
IC506
RV502 A3 REC LEVEL
IC507 A3 REC AMP
RV503 A3 REC EQ
20c
20b
AUDIO-3 R/P HEAD
CN352
CN317
14c
14a
IC302 A3 REC AMP
LV304,305 A3 BIAS TRAP
Q307,308 A3 REC BIAS AMP
Q309, Q311-313 Q316-318 A3 PB AMP
16c
16a
IC601, Q601, 603 SWITCH DRIVER
AU,302-14a
28b
A3 BIAS
CN359
CN371
RV3
AP-15 BOARD
BC-12 BOARD
CN301
22c
23b
LV502 BIAS TRAP
Q501
NOR FWD
IC719 REC A3→PBCTL CANCEL AMP
RV714 REC A3→PB CTL CANCEL LEVEL
A3 CANCEL
IC718
REC A3→PB CTL CANCEL
CN302
10b
PB CTL – PB A3 CANCEL
RV716 PB CTL→PB A3 CROSSTALK LEVEL
IC510 A3 PB EQ AMP
IC511 A3 PB EQ AMP(BPF)
RV508 A3 REC HIGH
RV509 A3 REC LOW
A3 BPF
IC512
Q503
A3 MUTE
IC513 A3 PB AMP
CN802
20a
19a
RV1 A3 PRESE
A3 TAPE/EE
IC523
IC519 TC REC WAVE SHAPER
RV517 TC REC WAVE SHAPER
IC521 TC PB WAVE SHAPER
RV518 TC PB COMPARATE LEVEL
IC524 IC525
IC528 TC OUTPUT WAVE SHAPER
NOR FWD
RV520 TC LEVEL
IC523
IC519 INPUT BUFFER
IC520 TC INPUT SELECTOR
IC521 TC INPUT WAVE SHAPER
RV516 TC COMPARATE LEVEL
+5V
IC522
IC525 IC526
TAPE/EE
IC525 IC526
IC526,527
IC524,525
IC523
SY, A16C
CN302
11C
TC GEN
INT
IC523
LIN-MIC/TC
IC523
RE GEN
REGEN/PB·EE

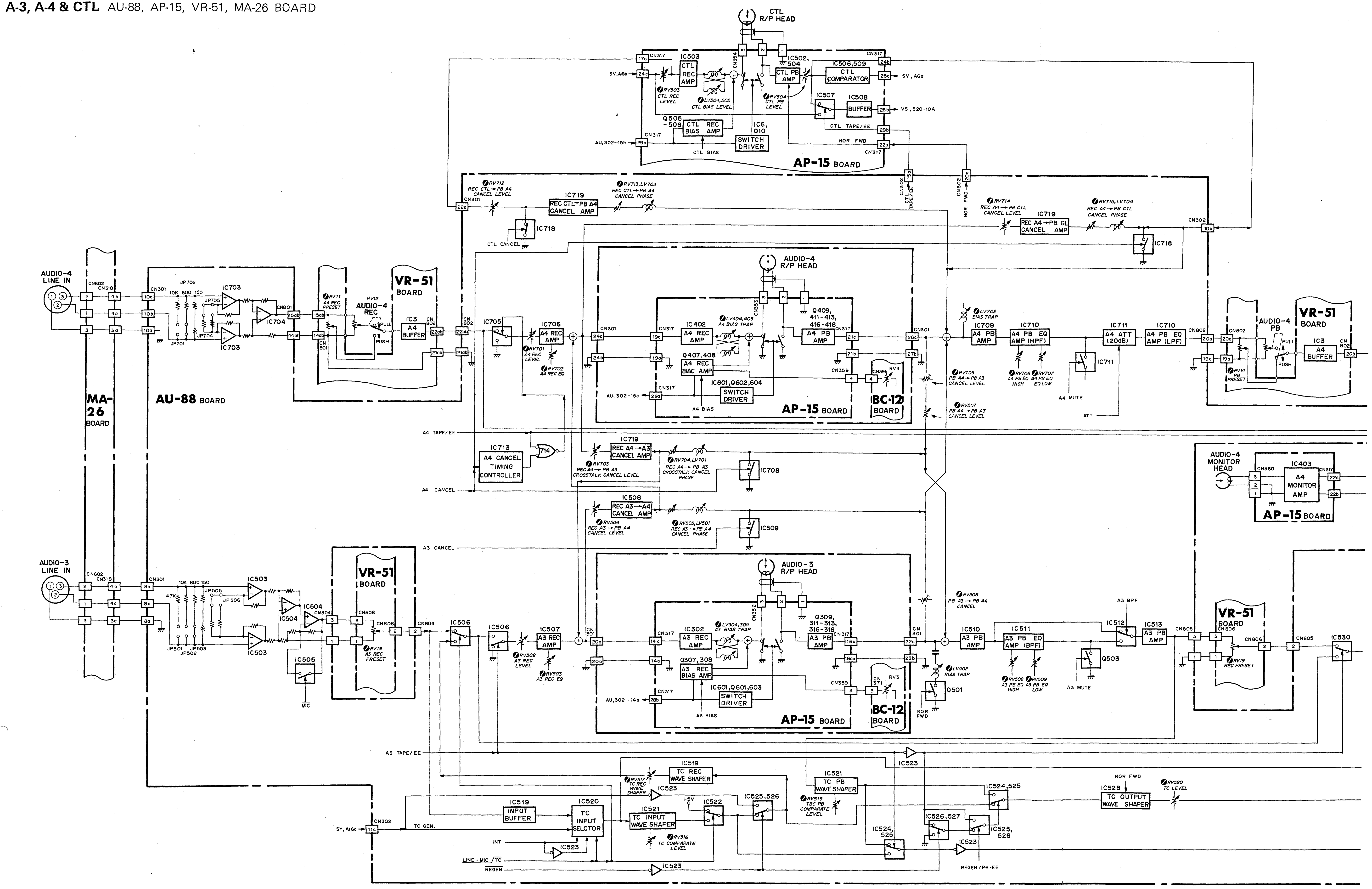

CTL R/P HEAD
CN354
CN317
IC503 CTL REC AMP
LV504,505 CTL BIAS TRAP
RV503 CTL REC LEVEL
IC502,504 CTL PB AMP
IC506,507 CTL COMPARATOR
RV504 CTL LEVEL
IC508 BUFFER
IC507
SV, A6b
SV A6a
VS 320-10A
NOR FWD
CTL TAPE/EE
Q505-508 CTL REC BIAS AMP
SWITCH DRIVER
IC6 Q10
AU,302-15b
CTL BIAS
AP-15 BOARD
CN302
CTL TAPE/EE
NOR FWD
PB CTL→PB A3 CANCEL
IC719 REC CTL→PB A3 CANCEL AMP
RV713 LV703 REC CTL → PB A3/A4 CROSSTALK CANCEL PHASE
IC719 REC A3→PBCTL CANCEL AMP
RV714 REC A3→PB CTL CANCEL LEVEL
A3 CANCEL
IC718
REC A3→PB CTL CANCEL
PB CTL — PB A3 CANCEL
RV716 PB CTL→PB A3 CROSSTALK LEVEL
AUDIO-3 R/P HEAD
CN352
IC506
IC507 A3 REC AMP
RV502 A3 REC LEVEL
RV503 A3 REC EQ
CN301
IC302 A3 REC AMP
LV304,305 A3 BIAS TRAP
Q309, Q311-313 Q316-318 A3 PB AMP
Q307,308 A3 REC BIAS AMP
IC601, Q601, 603 SWITCH DRIVER
AU,302-14a
A3 BIAS
CN359
CN371
RV3
BC-12 BOARD
AP-15 BOARD
IC510 A3 PB EQ AMP
LV502 BIAS TRAP
Q501
IC511 A3 PB EQ AMP(BPF)
RV508 A3 REC HIGH
RV509 A3 REC LOW
Q503
A3 MUTE
A3 BPF
IC512
IC513 A3 PB AMP
CN802
RV13 A3 PB PRESET
AUDIO-3 PB
PULL
PUSH
IC3 A3 BUFFER AMP
VR-15 BOARD
IC530
IC529
INPUT CHECK
RV521 A3 LINE OUT LEVEL
IC516
P.O.M.C
RY501
MA-26 BOARD
CN319
CN603
AUDIO-3 LINE OUT
A3 TAPE/EE
A3 MONITOR
IC519 TC REC WAVE SHAPER
RV517 TC REC WAVE SHAPER
IC523
IC521 TC PB WAVE SHAPER
RV518 TC PB COMPARATE LEVEL
IC524 IC525
NOR FWD
IC528 TC OUTPUT WAVE SHAPER
RV520 TC LEVEL
TAPE/EE
IC525 IC526
IC526,527
IC520 TC INPUT SELECTOR
IC521 TC INPUT WAVE SHAPER
RV516 TC COMPARATE LEVEL
+5V
IC522
IC524,525
IC515
M SELECT A3/A4
IC517,518 METER AMP
RV515 METER LEVEL
POWER ON MUTING
A3 METER
VR-51 BOARD
TC READ
SY, A16a

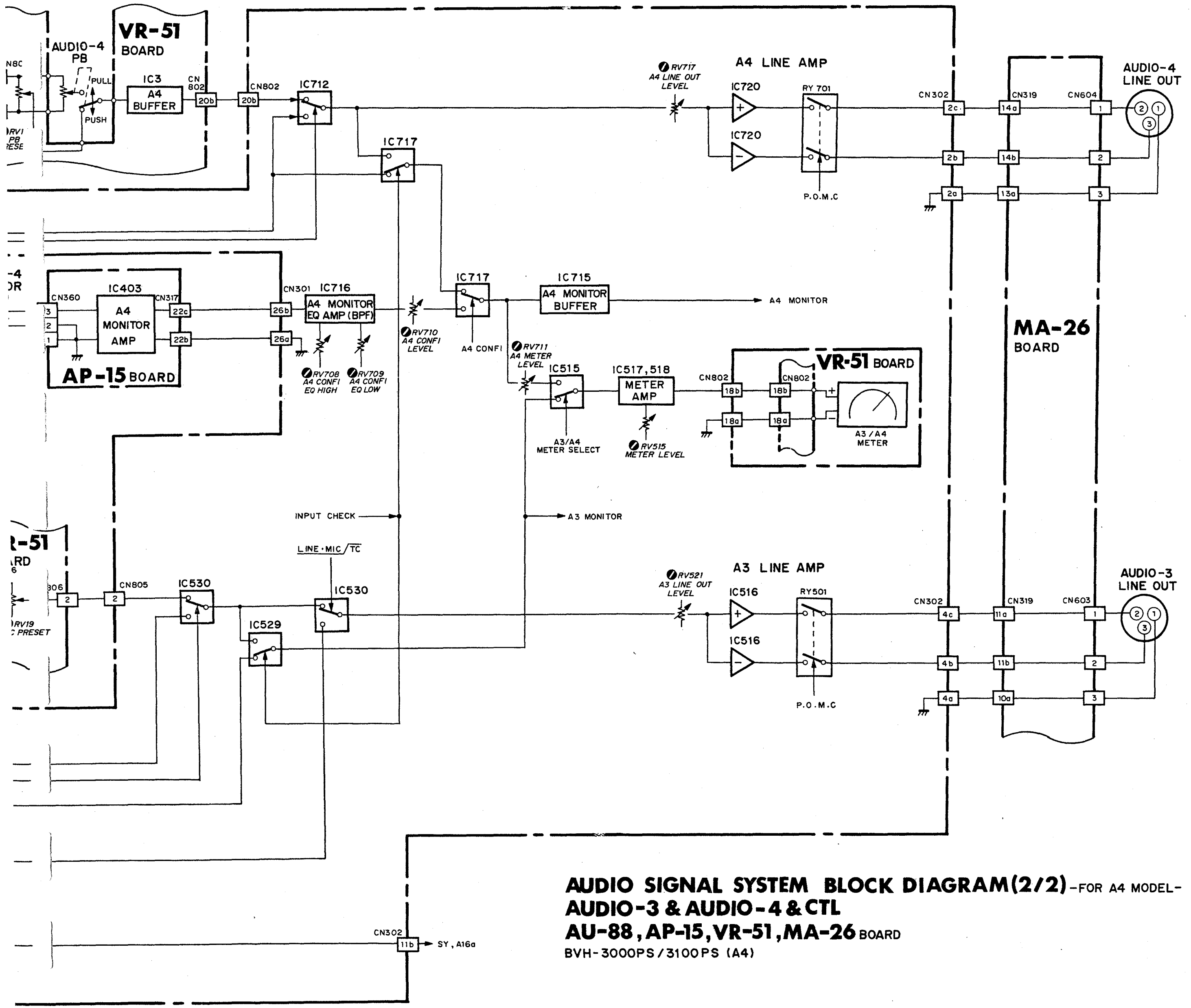
AUDIO SIGNAL SYSTEM BLOCK DIAGRAM(2/2) – FOR A3 MODEL –
AUDIO-3 & CTL
AU-88, AP-15, VR-51, MA-26 BOARD

BVH-3000/3100(J,UC)
BVH-3000PS/3100PS(A3)
BVH-3000PM/3100PM

AUDIO SIGNAL SYSTEM BLOCK DIAGRAM (2/2) – FOR A4 MODEL –

A-3, A-4 & CTL AU-88, AP-15, VR-51, MA-26 BOARD

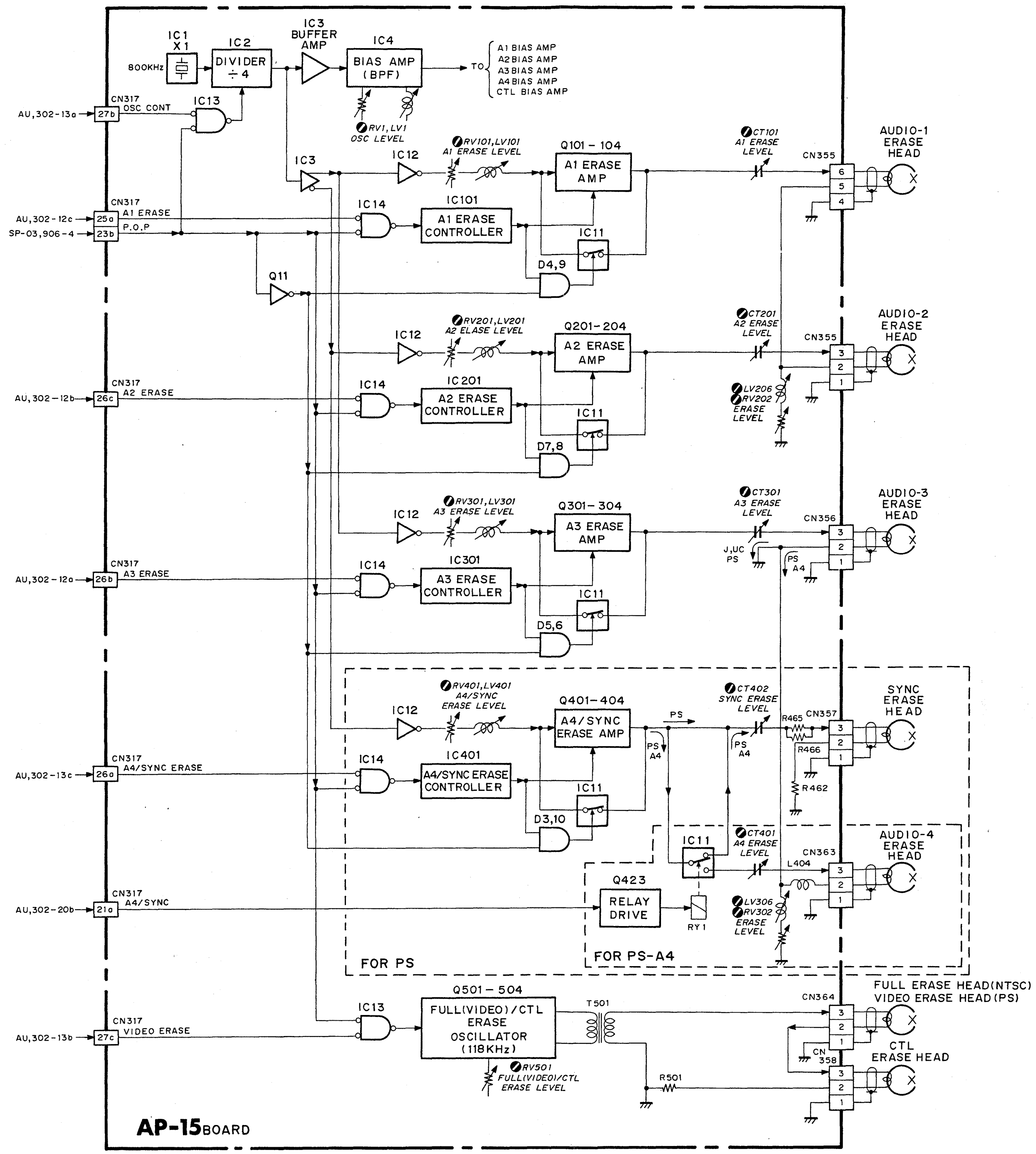

CTL R/P HEAD
IC503 CTL REC AMP
RV503 CTL REC LEVEL
LV504,505 CTL BIAS LEVEL
Q505-508 CTL REC BIAS AMP
IC6, Q10 SWITCH DRIVER
IC502,504 CTL PB AMP
RV504 CTL PB LEVEL
IC506,509 CTL COMPARATOR
IC507
IC508 BUFFER
CTL TAPE/EE
NOR FWD
CTL BIAS
SV,A6b
SV,A6a
VS,320-10A
AU,302-15b
CN317
CN354
AP-15 BOARD
CN302
RV712 REC CTL→PB A4 CANCEL LEVEL
IC719 REC CTL→PB A4 CANCEL AMP
RV713,LV703 REC CTL→PB A4 CANCEL PHASE
IC718
CTL CANCEL
RV714 REC A4→PB CTL CANCEL LEVEL
IC719 REC A4→PB CTL CANCEL AMP
RV715,LV704 REC A4→PB CTL CANCEL PHASE
AUDIO-4 LINE IN
CN602
CN318
CN301
JP702
JP705
JP704
JP701
10K 600 150
IC703
IC704
CN801
RV11 A4 REC PRESET
RV12 AUDIO-4 REC
PULL
PUSH
IC3 A4 BUFFER
CN802
VR-51 BOARD
MA-26 BOARD
AU-88 BOARD
IC705
IC706 A4 REC AMP
RV701 A4 REC LEVEL
RV702 A4 REC EQ
AUDIO-4 R/P HEAD
CN353
IC402 A4 REC AMP
LV404,405 A4 BIAS TRAP
Q409, 411-413, 416-418 A4 PB AMP
Q407,408 A4 REC BIAC AMP
IC601,Q602,604 SWITCH DRIVER
A4 BIAS
AU,302-15c
CN359
CN391
RV4
BC-12 BOARD
AP-15 BOARD
LV702 BIAS TRAP
IC709 A4 PB AMP
IC710 A4 PB EQ AMP (HPF)
RV706 A4 PB EQ HIGH
RV707 A4 PB EQ LOW
IC711 A4 ATT (20dB)
IC710 A4 PB EQ AMP (LPF)
IC711
A4 MUTE
ATT
RV705 PB A4→PB A3 CANCEL LEVEL
RV507 PB A4→PB A3 CANCEL LEVEL
AUDIO-4 PB
RV14 PB PRESET
IC3 A4 BUFFER
A4 TAPE/EE
IC713 A4 CANCEL TIMING CONTROLLER
714
IC719 REC A4→A3 CANCEL AMP
RV703 REC A4→PB A3 CROSSTALK CANCEL LEVEL
RV704,LV701 REC A4→PB A3 CROSSTALK CANCEL PHASE
IC708
A4 CANCEL
IC508 REC A3→A4 CANCEL AMP
RV504 REC A3→PB A4 CANCEL LEVEL
RV505,LV501 REC A3→PB A4 CANCEL PHASE
IC509
AUDIO-4 MONITOR HEAD
CN360
IC403 A4 MONITOR AMP
AP-15 BOARD
A3 CANCEL
AUDIO-3 LINE IN
47K
JP505
JP506
JP501 JP503 JP502
IC503
IC504
CN804
CN806
RV19 A3 REC PRESET
IC505
MIC
IC506
IC507 A3 REC AMP
RV502 A3 REC LEVEL
RV503 A3 REC EQ
AUDIO-3 R/P HEAD
CN352
IC302 A3 REC AMP
LV304,305 A3 BIAS TRAP
Q309, 311-313, 316-318 A3 PB AMP
Q307,308 A3 REC BIAS AMP
IC601,Q601,603 SWITCH DRIVER
A3 BIAS
AU,302-14a
CN371
RV3
RV506 PB A3→PB A4 CANCEL
LV502 BIAS TRAP
Q501
NOR FWD
IC510 A3 PB AMP
IC511 A3 PB EQ AMP (BPF)
RV508 A3 PB EQ HIGH
RV509 A3 PB EQ LOW
Q503
A3 MUTE
A3 BPF
IC512
IC513 A3 PB AMP
CN805
RV19 REC PRESET
IC530
A3 TAPE/EE
IC523
IC519 TC REC WAVE SHAPER
RV517 TC REC WAVE SHAPER
IC521 TC PB WAVE SHAPER
RV518 TBC PB COMPARATE LEVEL
IC524,525
IC528 TC OUTPUT WAVE SHAPER
RV520 TC LEVEL
IC519 INPUT BUFFER
IC520 TC INPUT SELCTOR
IC521 TC INPUT WAVE SHAPER
RV516 TC COMPARATE LEVEL
+5V
IC522
IC525,526
IC526,527
IC524,525
IC525,526
SY,A16c
TC GEN.
INT
LINE・MIC/TC
REGEN
REGEN/PB・EE


AUDIO-4 PB
VR-51 BOARD
PULL
PUSH
IC3
A4 BUFFER
CN 802
20b
CN802
IC712
IC717
RV717 A4 LINE OUT LEVEL
A4 LINE AMP
IC720
RY 701
P.O.M.C
CN302
2c
2b
2a
CN319
14a
14b
13a
CN604
AUDIO-4 LINE OUT
CN360
IC403
A4 MONITOR AMP
CN317
22c
22b
AP-15 BOARD
CN301
IC716
A4 MONITOR EQ AMP (BPF)
26b
26a
RV710 A4 CONFI LEVEL
RV708 A4 CONFI EQ HIGH
RV709 A4 CONFI EQ LOW
A4 CONFI
IC715
A4 MONITOR BUFFER
A4 MONITOR
RV711 A4 METER LEVEL
IC515
IC517,518
METER AMP
CN802
18b
18a
VR-51 BOARD
A3/A4 METER
A3/A4 METER SELECT
RV515 METER LEVEL
MA-26 BOARD
INPUT CHECK
A3 MONITOR
LINE·MIC/TC
CN805
IC530
IC529
RV19 PRESET
RV521 A3 LINE OUT LEVEL
A3 LINE AMP
IC516
RY501
P.O.M.C
CN302
4c
4b
4a
CN319
11a
11b
10a
CN603
AUDIO-3 LINE OUT
CN302
11b
SY, A16a

AUDIO SIGNAL SYSTEM BLOCK DIAGRAM(2/2)-FOR A4 MODEL-
AUDIO-3 & AUDIO-4 & CTL
AU-88, AP-15, VR-51, MA-26 BOARD
BVH-3000PS/3100PS (A4)

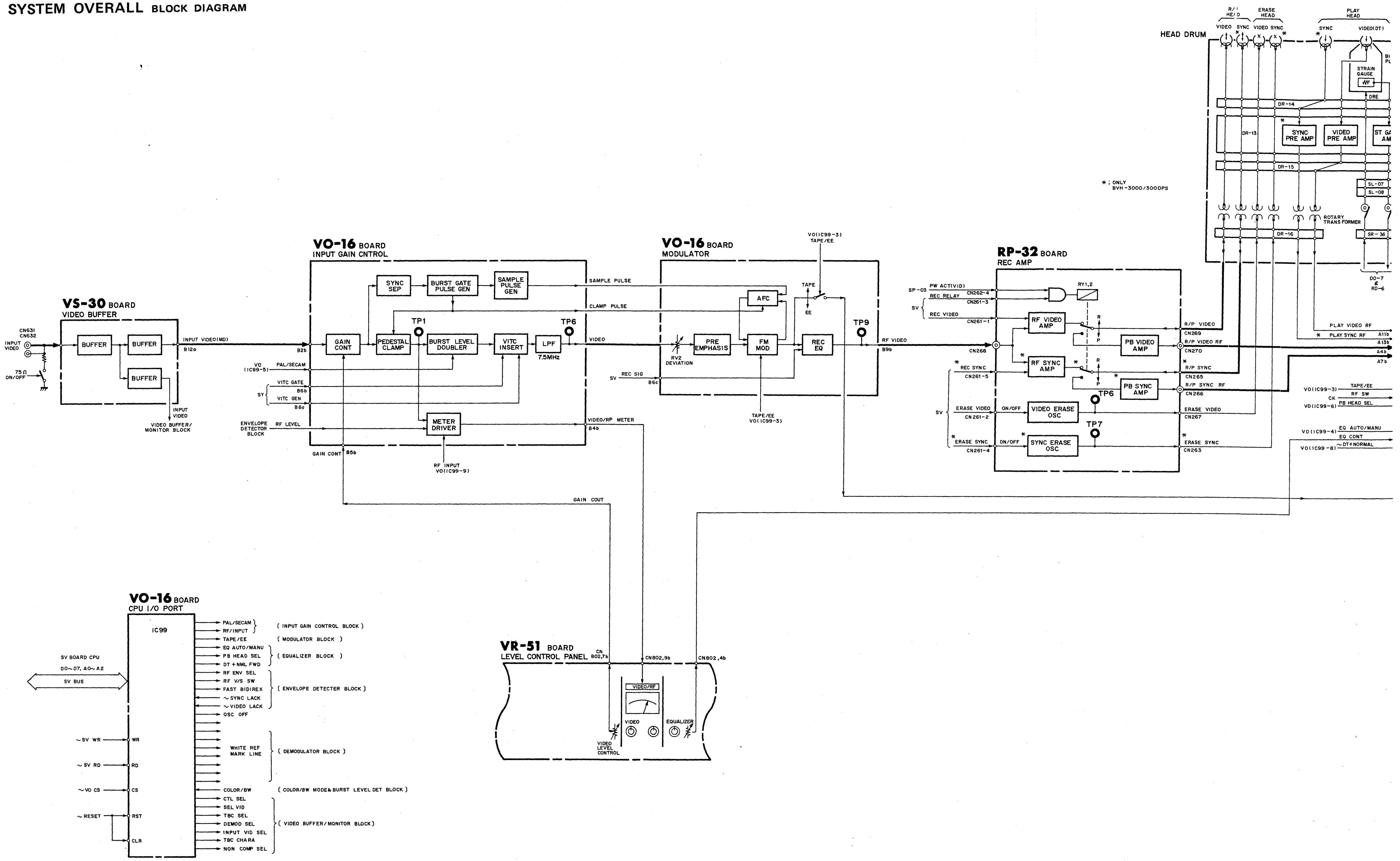
ERASE SIGNAL SYSTEM BLOCK DIAGRAM

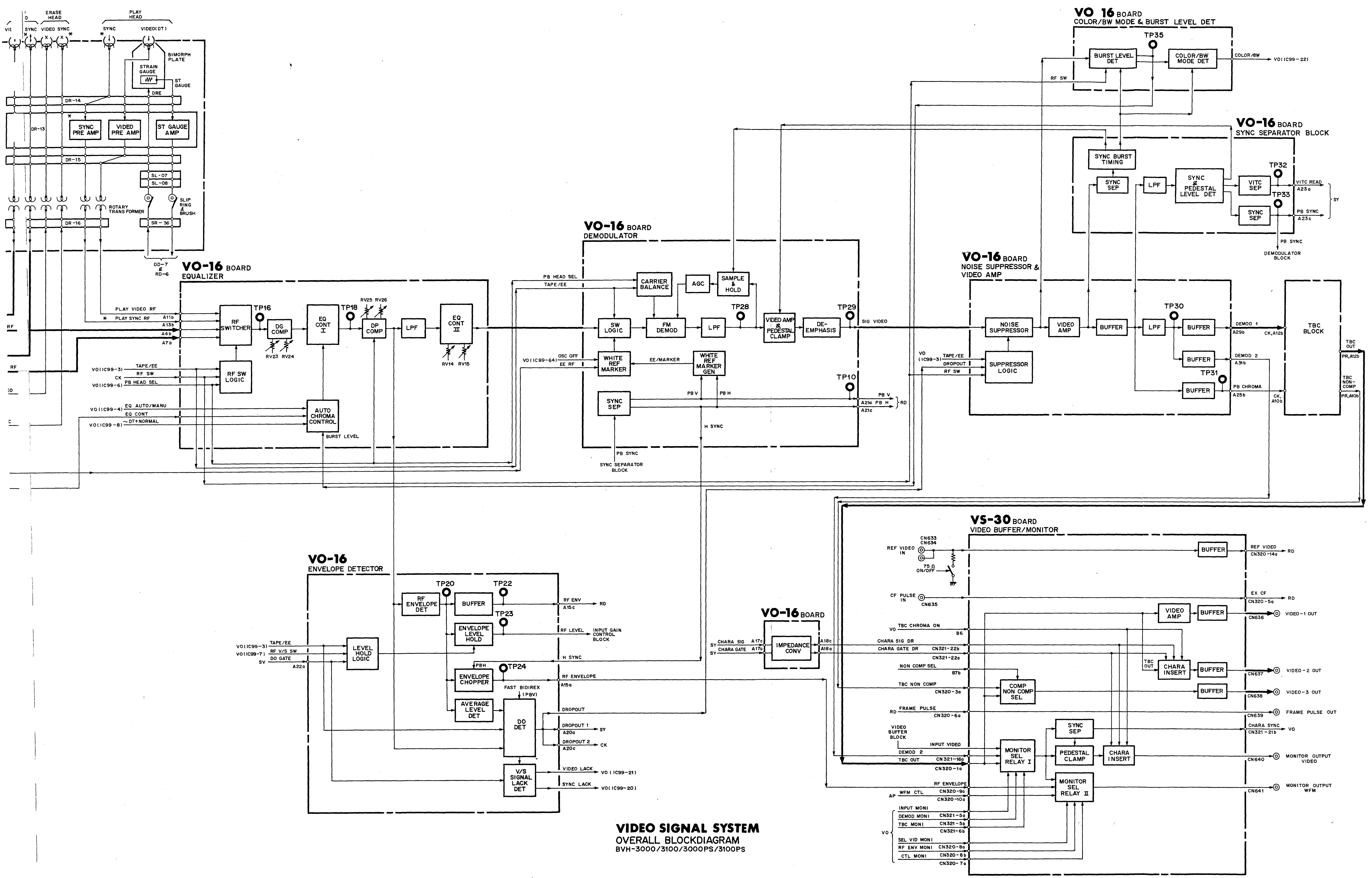
AP-15 BOARD


IC1 X1
800KHz
IC2 DIVIDER ÷4
IC3 BUFFER AMP
IC4 BIAS AMP (BPF)
RV1, LV1 OSC LEVEL
TO A1 BIAS AMP A2 BIAS AMP A3 BIAS AMP A4 BIAS AMP CTL BIAS AMP
AU,302-13a
CN317 27b OSC CONT
IC13
IC3
IC12
RV101, LV101 A1 ERASE LEVEL
Q101-104 A1 ERASE AMP
CT101 A1 ERASE LEVEL
CN355
AUDIO-1 ERASE HEAD
AU,302-12c
SP-03,906-4
CN317 25a A1 ERASE
23b P.O.P
IC14
IC101 A1 ERASE CONTROLLER
IC11
D4,9
Q11
IC12
RV201, LV201 A2 ELASE LEVEL
Q201-204 A2 ERASE AMP
CT201 A2 ERASE LEVEL
CN355
AUDIO-2 ERASE HEAD
AU,302-12b
CN317 26c A2 ERASE
IC14
IC201 A2 ERASE CONTROLLER
IC11
D7,8
LV206 RV202 ERASE LEVEL
IC12
RV301, LV301 A3 ERASE LEVEL
Q301-304 A3 ERASE AMP
CT301 A3 ERASE LEVEL
CN356
AUDIO-3 ERASE HEAD
J,UC PS
PS A4
AU,302-12a
CN317 26b A3 ERASE
IC14
IC301 A3 ERASE CONTROLLER
IC11
D5,6
IC12
RV401, LV401 A4/SYNC ERASE LEVEL
Q401-404 A4/SYNC ERASE AMP
PS
PS A4
CT402 SYNC ERASE LEVEL
R465
R466
R462
CN357
SYNC ERASE HEAD
AU,302-13c
CN317 26a A4/SYNC ERASE
IC14
IC401 A4/SYNC ERASE CONTROLLER
IC11
D3,10
IC11
CT401 A4 ERASE LEVEL
L404
CN363
AUDIO-4 ERASE HEAD
Q423 RELAY DRIVE
RY1
LV306 RV302 ERASE LEVEL
AU,302-20b
CN317 21a A4/SYNC
FOR PS
FOR PS-A4
Q501-504
FULL(VIDEO)/CTL ERASE OSCILLATOR (118KHz)
RV501 FULL(VIDEO)/CTL ERASE LEVEL
T501
R501
CN364
FULL ERASE HEAD(NTSC) VIDEO ERASE HEAD(PS)
CN 358
CTL ERASE HEAD
AU,302-13b
CN317 27c VIDEO ERASE
IC13
AP-15 BOARD

ERASE SIGNAL SYSTEM BLOCK DIAGRAM
AP-15 BOARD
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS(A3)
BVH-3000PS/3100PS(A4)
BVH-3000PM/3100PM

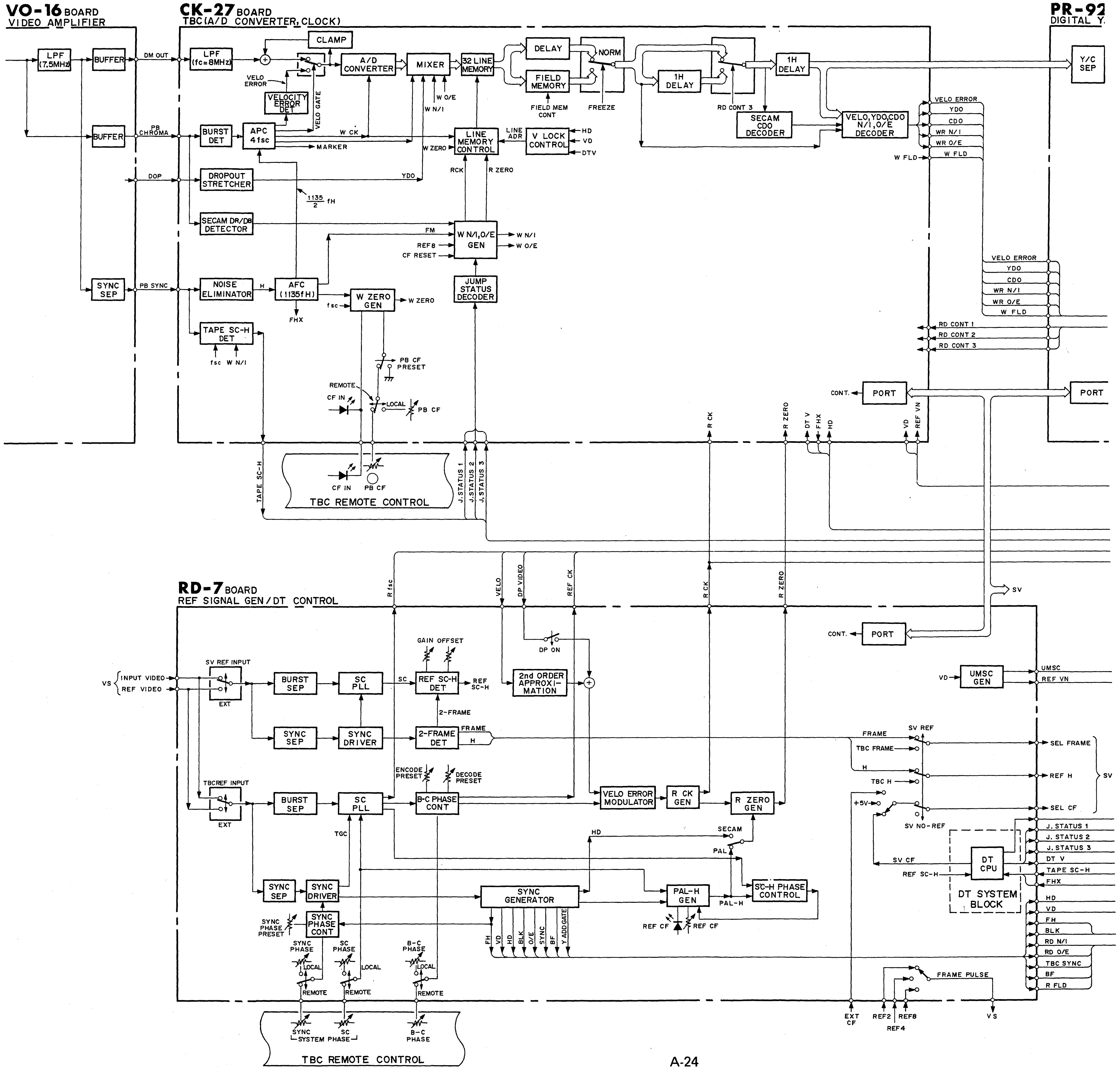
VIDEO SIGNAL SYSTEM OVERALL BLOCK DIAGRAM

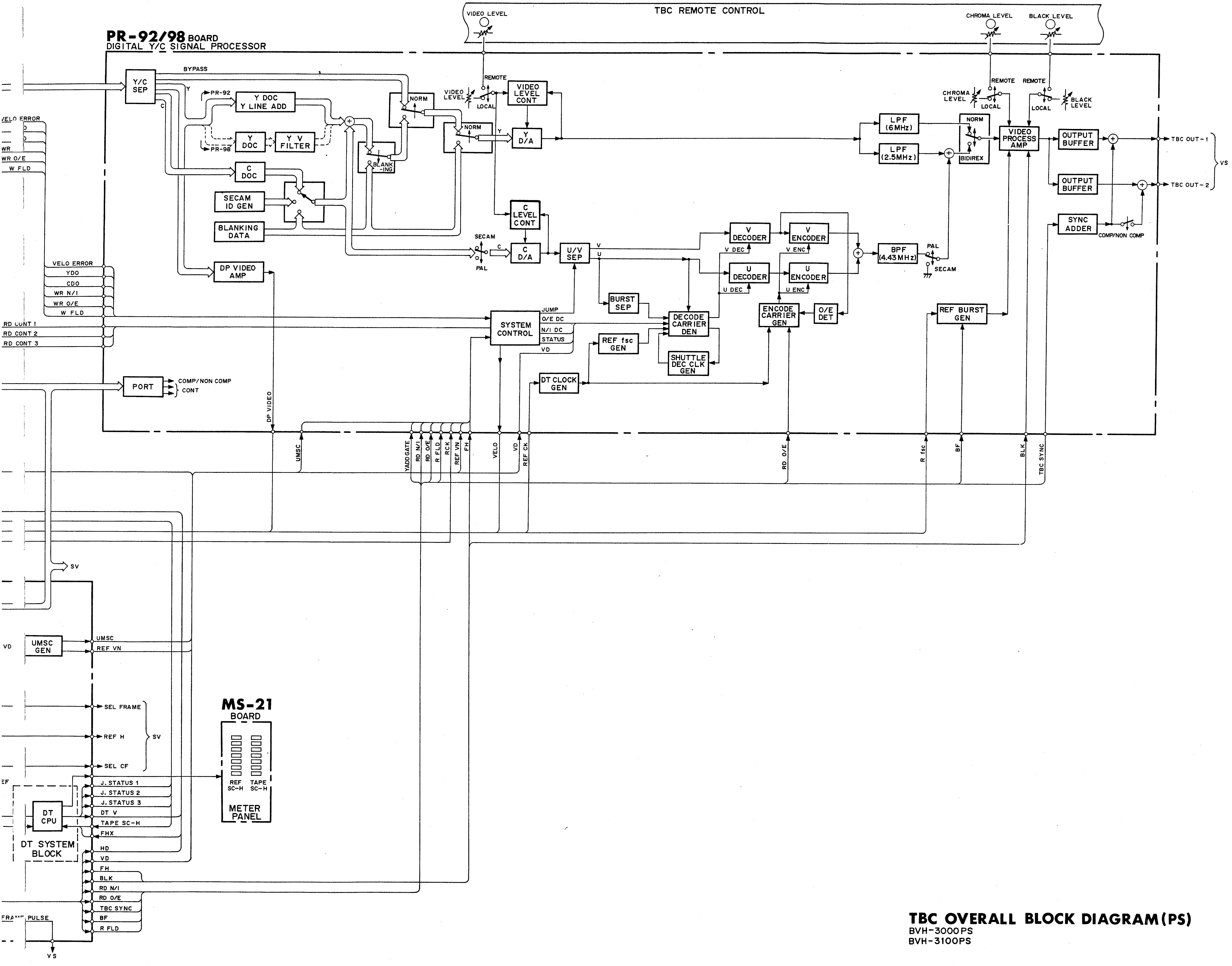

VS-30 BOARD
VIDEO BUFFER
CN631
CN632
INPUT VIDEO
75 Ω ON/OFF
BUFFER
BUFFER
BUFFER
INPUT VIDEO(MD)
B12a
INPUT VIDEO
VIDEO BUFFER/ MONITOR BLOCK
VO-16 BOARD
INPUT GAIN CNTROL
SYNC SEP
BURST GATE PULSE GEN
SAMPLE PULSE GEN
GAIN CONT
PEDESTAL CLAMP
TP1
BURST LEVEL DOUBLER
VITC INSERT
LPF
7.5MHz
TP6
B2b
VO (IC99-5)
PAL/SECAM
SY
VITC GATE
B6b
VITC GEN
B6a
ENVELOPE DETECTOR BLOCK
RF LEVEL
METER DRIVER
RF INPUT VO(IC99-9)
GAIN CONT
B5b
SAMPLE PULSE
CLAMP PULSE
VIDEO
VIDEO/RP METER
B4b
GAIN COUT
VO-16 BOARD
MODULATOR
VO(IC99-3) TAPE/EE
TAPE
EE
AFC
RV2 DEVIATION
PRE EMPHASIS
FM MOD
REC EQ
TP9
SV
REC SIG
B6c
TAPE/EE VO(IC99-3)
RF VIDEO
B9b
*; ONLY BVH-3000/3000PS
RP-32 BOARD
REC AMP
SP-03
PW ACT(VID)
CN262-4
SV
REC RELAY
CN261-3
REC VIDEO
CN261-1
RY1,2
RF VIDEO AMP
R
P
PB VIDEO AMP
CN268
* REC SYNC
CN261-5
* RF SYNC AMP
*
R
P
* PB SYNC AMP
TP6
SV
ERASE VIDEO
CN261-2
ON/OFF
VIDEO ERASE OSC
TP7
* ERASE SYNC
CN261-4
ON/OFF
* SYNC ERASE OSC
R/P VIDEO
CN269
R/P VIDEO RF
CN270
* R/P SYNC
CN265
R/P SYNC RF
CN266
ERASE VIDEO
CN267
* ERASE SYNC
CN263
HEAD DRUM
R/P HEAD
VIDEO
SYNC
ERASE HEAD
VIDEO
SYNC
PLAY HEAD
SYNC
VIDEO(DT)
BI PL
STRAIN GAUGE
DRE
DR-14
DR-13
* SYNC PRE AMP
VIDEO PRE AMP
ST GA AM
DR-15
SL-07
SL-08
ROTARY TRANS FORMER
DR-16
SR-36
DD-7 & RD-6
PLAY VIDEO RF
* PLAY SYNC RF
A11b
A13b
A4b
A7b
VO(IC99-3)
TAPE/EE
CK
RF SW
VO(IC99-6)
PB HEAD SEL
VO(IC99-4)
EQ AUTO/MANU
EQ CONT
VO(IC99-8)
~DT+NORMAL
VO-16 BOARD
CPU I/O PORT
IC99
SV BOARD CPU
D0~D7, A0~A2
SV BUS
~SV WR
WR
~SV RD
RD
~VO CS
CS
~RESET
RST
CLR
PAL/SECAM
RF/INPUT
(INPUT GAIN CONTROL BLOCK)
TAPE/EE
(MODULATOR BLOCK)
EQ AUTO/MANU
PB HEAD SEL
DT + NML FWD
(EQUALIZER BLOCK)
RF ENV SEL
RF V/S SW
FAST BIDIREX
~SYNC LACK
~VIDEO LACK
(ENVELOPE DETECTER BLOCK)
OSC OFF
WHITE REF
MARK LINE
(DEMODULATOR BLOCK)
COLOR/BW
(COLOR/BW MODE& BURST LEVEL DET BLOCK)
CTL SEL
SEL VID
TBC SEL
DEMOD SEL
INPUT VID SEL
TBC CHARA
NON COMP SEL
(VIDEO BUFFER/MONITOR BLOCK)
VR-51 BOARD
LEVEL CONTROL PANEL
CN 802,7b
CN802,9b
CN802,4b
VIDEO/RF
VIDEO
EQUALIZER
VIDEO LEVEL CONTROL


ERASE HEAD
PLAY HEAD
SYNC
VIDEO SYNC
VIDEO(DT)
BIMORPH PLATE
STRAIN GAUGE
ST GAUGE
DRE
DR-14
DR-13
SYNC PRE AMP
VIDEO PRE AMP
ST GAUGE AMP
DR-15
SL-07
SL-08
ROTARY TRANS FORMER
SLIP RING & BRUSH
DR-16
SR-36
DD-7 & RD-6
VO-16 BOARD
EQUALIZER
PLAY VIDEO RF
PLAY SYNC RF
A11b
A13b
A4b
A7b
RF SWITCHER
TP16
DG COMP
RV23 RV24
EQ CONT I
TP18
RV25 RV26
DP COMP
LPF
EQ CONT II
RV14 RV15
RF SW LOGIC
VO(IC99-3)
TAPE/EE
RF SW
CK
VO(IC99-6)
PB HEAD SEL
VO(IC99-4)
EQ AUTO/MANU
EQ CONT
VO(IC99-8)
~DT+NORMAL
AUTO CHROMA CONTROL
BURST LEVEL
VO-16 BOARD
DEMODULATOR
PB HEAD SEL
TAPE/EE
CARRIER BALANCE
AGC
SAMPLE & HOLD
TP28
TP29
SW LOGIC
FM DEMOD
LPF
VIDEO AMP & PEDESTAL CLAMP
DE-EMPHASIS
SIG VIDEO
VO(IC99-64)
OSC OFF
EE RF
WHITE REF MARKER
EE/MARKER
WHITE REF MARKER GEN
TP10
SYNC SEP
PB V
PB H
A21a PB H
A21c
RD
H SYNC
PB SYNC
SYNC SEPARATOR BLOCK
VO 16 BOARD
COLOR/BW MODE & BURST LEVEL DET
TP35
BURST LEVEL DET
COLOR/BW MODE DET
COLOR/BW
VO(IC99-22)
RF SW
VO-16 BOARD
SYNC SEPARATOR BLOCK
SYNC BURST TIMING
TP32
SYNC SEP
LPF
SYNC & PEDESTAL LEVEL DET
VITC SEP
VITC READ
A23a
TP33
SYNC SEP
PB SYNC
A23c
SY
PB SYNC
DEMODULATOR BLOCK
VO-16 BOARD
NOISE SUPPRESSOR & VIDEO AMP
NOISE SUPPRESSOR
VIDEO AMP
BUFFER
LPF
TP30
BUFFER
DEMOD 1
A29b
CK,A12b
TBC BLOCK
VO (IC99-3)
TAPE/EE
DROPOUT
RF SW
SUPPRESSOR LOGIC
BUFFER
DEMOD 2
A31b
TP31
BUFFER
PB CHROMA
A25b
CK, A10b
TBC OUT
PR,A12b
TBC NON-COMP
PR,A10b
VO-16
ENVELOPE DETECTOR
TP20
TP22
RF ENVELOPE DET
BUFFER
RF ENV
A15c
RD
TP23
ENVELOPE LEVEL HOLD
RF LEVEL
INPUT GAIN CONTROL BLOCK
VO(IC99-3)
TAPE/EE
VO(IC99-7)
RF V/S SW
DO GATE
SV
A22a
LEVEL HOLD LOGIC
H SYNC
PBH
TP24
ENVELOPE CHOPPER
RF ENVELOPE
A15a
FAST BIDIREX (PBV)
AVERAGE LEVEL DET
DO DET
DROPOUT
DROPOUT 1
A20a
SY
DROPOUT 2
A20c
CK
V/S SIGNAL LACK DET
VIDEO LACK
VO (IC99-21)
SYNC LACK
VO(IC99-20)
VO-16 BOARD
SY
CHARA SIG
A17c
CHARA GATE
A17a
IMPEDANCE CONV
A18c
A18a
VS-30 BOARD
VIDEO BUFFER/MONITOR
CN633
CN634
REF VIDEO IN
75 Ω ON/OFF
BUFFER
REF VIDEO
CN320-14a
RD
CF PULSE IN
CN635
EX CF
CN320-5a
RD
VIDEO AMP
BUFFER
CN636
VIDEO-1 OUT
VO
TBC CHROMA ON
B6
CHARA SIG DR
CHARA GATE DR
CN321-22b
CN321-22a
TBC OUT
CHARA INSERT
BUFFER
CN637
VIDEO-2 OUT
NON COMP SEL
B7b
TBC NON COMP
CN320-3a
COMP NON COMP SEL
BUFFER
CN638
VIDEO-3 OUT
RD
FRAME PULSE
CN320-6a
CN639
FRAME PULSE OUT
SYNC SEP
CHARA SYNC
CN321-21b
VO
VIDEO BUFFER BLOCK
INPUT VIDEO
DEMOD 2
TBC OUT
CN321-16a
CN320-1a
MONITOR SEL RELAY I
PEDESTAL CLAMP
CHARA INSERT
CN640
MONITOR OUTPUT VIDEO
RF ENVELOPE
AP
WFM CTL
CN320-9a
CN320-10a
MONITOR SEL RELAY II
CN641
MONITOR OUTPUT WFM
INPUT MONI
DEMOD MONI
CN321-5a
TBC MONI
CN321-5b
CN321-6b
SEL VID MONI
RF ENV MONI
CN320-8a
CTL MONI
CN320-8b
CN320-7a
VO

VIDEO SIGNAL SYSTEM
OVERALL BLOCKDIAGRAM
BVH-3000/3100/3000PS/3100PS

TBC OVERALL BLOCK DIAGRAM

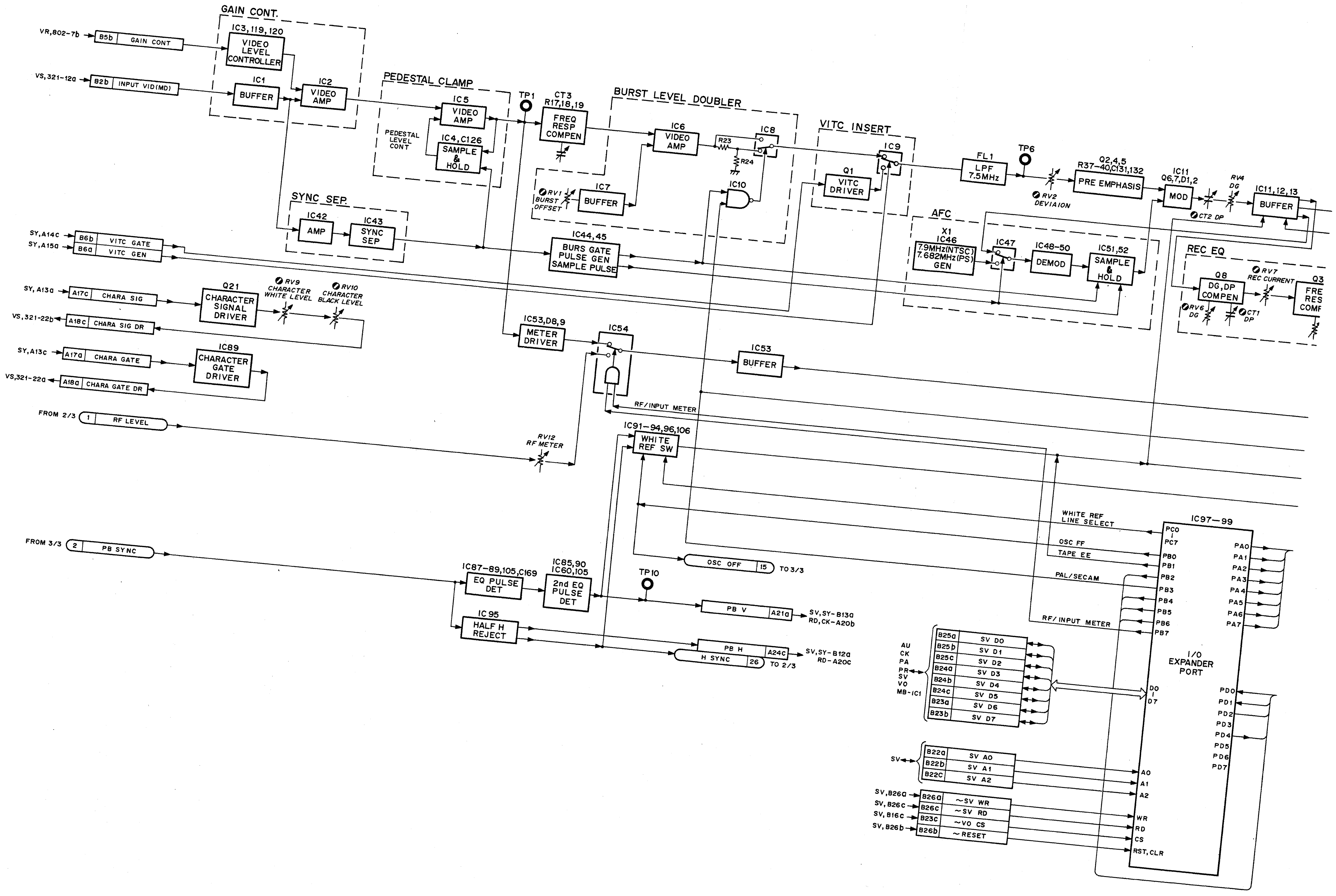

VO-16 BOARD
VIDEO AMPLIFIER
LPF (7.5MHz)
BUFFER
BUFFER
SYNC SEP
DM OUT
PB CHROMA
DOP
PB SYNC
CK-27 BOARD
TBC (A/D CONVERTER, CLOCK)
LPF (fc=8MHz)
CLAMP
VELO ERROR
VELOCITY ERROR DET
VELO GATE
A/D CONVERTER
MIXER
32 LINE MEMORY
DELAY
FIELD MEMORY
NORM
FIELD MEM CONT
FREEZE
1H DELAY
1H DELAY
RD CONT 3
SECAM CDO DECODER
VELO, YDO, CDO N/1, O/E DECODER
BURST DET
APC 4fsc
W CK
MARKER
W ZERO
LINE MEMORY CONTROL
LINE ADR
V LOCK CONTROL
HD
VD
DTV
W O/E
W N/I
RCK
R ZERO
DROPOUT STRETCHER
YDO
1135/2 fH
SECAM DR/DB DETECTOR
FM
REF8
CF RESET
W N/1, O/E GEN
W N/I
W O/E
JUMP STATUS DECODER
NOISE ELIMINATOR
H
AFC (1135fH)
FHX
W ZERO GEN
fsc
TAPE SC-H DET
fsc W N/I
PB CF PRESET
REMOTE
CF IN
LOCAL
PB CF
VELO ERROR
YDO
CDO
WR N/I
WR O/E
W FLD
RD CONT 1
RD CONT 2
RD CONT 3
CONT.
PORT
PORT
R CK
R ZERO
DT V
FHX
HD
VD
REF VN
TAPE SC-H
CF IN
PB CF
TBC REMOTE CONTROL
J. STATUS 1
J. STATUS 2
J. STATUS 3
PR-92
DIGITAL Y.
Y/C SEP
SV
RD-7 BOARD
REF SIGNAL GEN/DT CONTROL
R fsc
VELO
DP VIDEO
REF CK
R CK
R ZERO
VS
INPUT VIDEO
REF VIDEO
SV REF INPUT
EXT
BURST SEP
SC PLL
SC
GAIN OFFSET
REF SC-H DET
REF SC-H
DP ON
2nd ORDER APPROXI-MATION
2-FRAME
SYNC SEP
SYNC DRIVER
2-FRAME DET
FRAME
H
ENCODE PRESET
DECODE PRESET
TBCREF INPUT
EXT
BURST SEP
SC PLL
B-C PHASE CONT
VELO ERROR MODULATOR
R CK GEN
R ZERO GEN
TGC
HD
SECAM
PAL
SYNC SEP
SYNC DRIVER
SYNC GENERATOR
PAL-H GEN
PAL-H
SC-H PHASE CONTROL
REF CF
REF CF
SYNC PHASE CONT
SYNC PHASE PRESET
SYNC PHASE
SC PHASE
B-C PHASE
LOCAL
REMOTE
FH
VD
HD
BLK
O/E
SYNC
BF
Y ADD GATE
SYNC SC
SYSTEM PHASE
B-C PHASE
TBC REMOTE CONTROL
CONT.
PORT
VD
UMSC GEN
UMSC
REF VN
FRAME
SV REF
TBC FRAME
H
TBC H
+5V
SV NO-REF
SEL FRAME
REF H
SEL CF
SV
SV CF
REF SC-H
DT CPU
DT SYSTEM BLOCK
J. STATUS 1
J. STATUS 2
J. STATUS 3
DT V
TAPE SC-H
FHX
HD
VD
FH
BLK
RD N/I
RD O/E
TBC SYNC
BF
R FLD
FRAME PULSE
EXT CF
REF2
REF4
REF8
VS

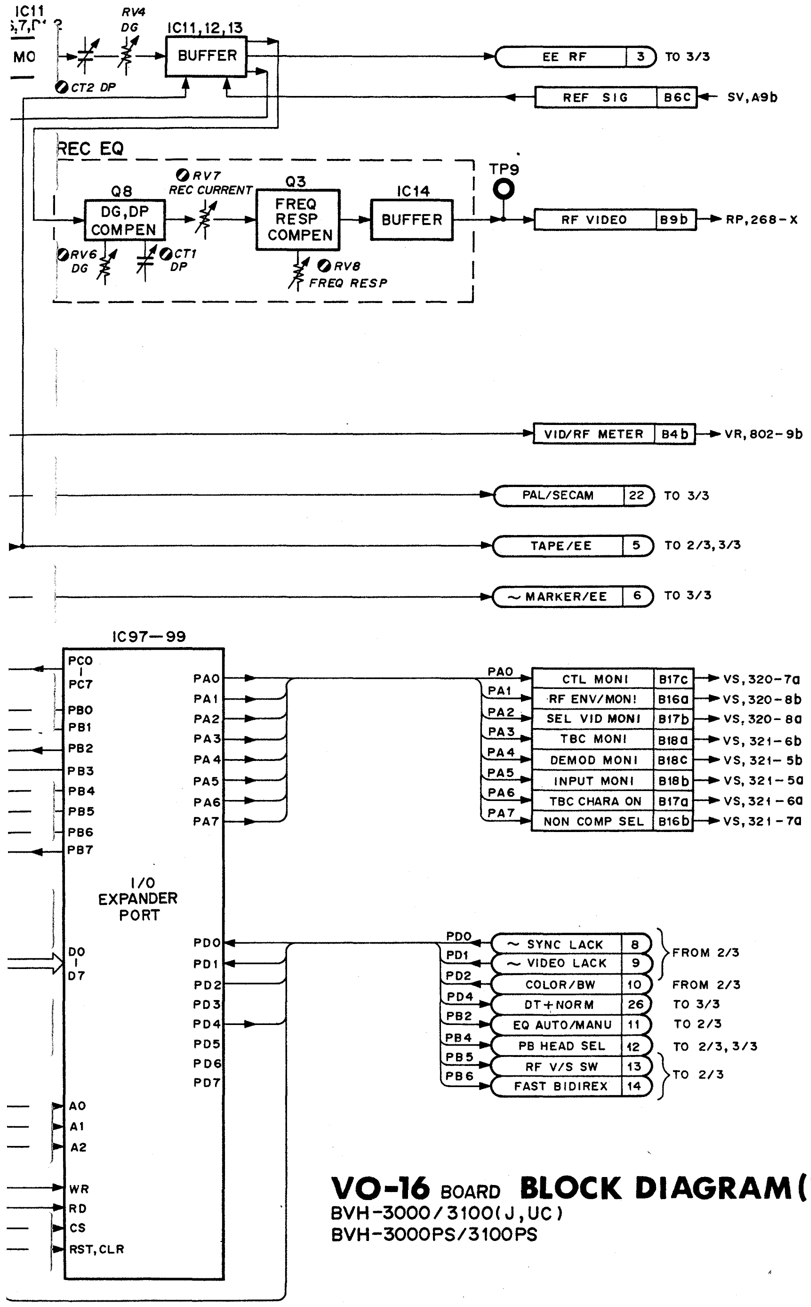

TBC REMOTE CONTROL
VIDEO LEVEL
CHROMA LEVEL
BLACK LEVEL
PR-92/98 BOARD
DIGITAL Y/C SIGNAL PROCESSOR
BYPASS
Y/C SEP
Y
C
PR-92
PR-98
Y DOC Y LINE ADD
Y DOC
Y V FILTER
C DOC
SECAM ID GEN
BLANKING DATA
DP VIDEO AMP
NORM
BLANK-ING
VIDEO LEVEL
REMOTE
LOCAL
VIDEO LEVEL CONT
Y D/A
C LEVEL CONT
SECAM
PAL
C D/A
U/V SEP
V
U
BURST SEP
SYSTEM CONTROL
JUMP
O/E DC
N/I DC
STATUS
VD
REF fsc GEN
DECODE CARRIER DEN
SHUTTLE DEC CLK GEN
DT CLOCK GEN
V DECODER
V DEC
U DECODER
U DEC
V ENCODER
V ENC
U ENCODER
U ENC
ENCODE CARRIER GEN
O/E DET
BPF (4.43MHz)
PAL
SECAM
LPF (6MHz)
LPF (2.5MHz)
NORM
BIDIREX
CHROMA LEVEL
BLACK LEVEL
VIDEO PROCESS AMP
REF BURST GEN
OUTPUT BUFFER
OUTPUT BUFFER
SYNC ADDER
COMP/NON COMP
TBC OUT-1
TBC OUT-2
VS
VELO ERROR
YDO
CDO
WR N/I
WR O/E
W FLD
RD CONT 1
RD CONT 2
RD CONT 3
PORT
COMP/NON COMP
CONT
DP VIDEO
UMSC
YADO GATE
RD N/I
RD O/E
R FLD
RCK
REF VN
FH
VELO
VD
REF CK
RD O/E
R fsc
BF
BLK
TBC SYNC
SV
VD
UMSC GEN
UMSC
REF VN
SEL FRAME
REF H
SEL CF
SV
J. STATUS 1
J. STATUS 2
J. STATUS 3
DT V
TAPE SC-H
FHX
HD
VD
FH
BLK
RD N/I
RD O/E
TBC SYNC
BF
R FLD
DT CPU
DT SYSTEM BLOCK
FRAME PULSE
VS
MS-21 BOARD
REF SC-H
TAPE SC-H
METER PANEL

TBC OVERALL BLOCK DIAGRAM(PS)
BVH-3000PS
BVH-3100PS

VO-16 BOARD (1/3)

CPU I/O PORT
INPUT GAIN CONTROLLER
MODULATOR


GAIN CONT.
VR,802-7b
B5b GAIN CONT
IC3,119,120
VIDEO LEVEL CONTROLLER
VS,321-12a
B2b INPUT VID(MD)
IC1
BUFFER
IC2
VIDEO AMP
PEDESTAL CLAMP
PEDESTAL LEVEL CONT
IC5
VIDEO AMP
IC4,C126
SAMPLE & HOLD
TP1
CT3
R17,18,19
FREQ RESP COMPEN
BURST LEVEL DOUBLER
RV1
BURST OFFSET
IC7
BUFFER
IC6
VIDEO AMP
R23
R24
IC8
IC10
VITC INSERT
Q1
VITC DRIVER
IC9
FL1
LPF 7.5MHz
TP6
RV2
DEVIAION
Q2,4,5
R37-40,C131,132
PRE EMPHASIS
IC11
Q6,7,D1,2
MOD
RV4
DG
CT2 DP
IC11,12,13
BUFFER
SYNC SEP.
IC42
AMP
IC43
SYNC SEP
SY,A14c
SY,A15a
B6b VITC GATE
B6a VITC GEN
IC44,45
BURS GATE PULSE GEN SAMPLE PULSE
AFC
X1
IC46
7.9MHz(NTSC)
7.682MHz(PS)
GEN
IC47
IC48-50
DEMOD
IC51,52
SAMPLE & HOLD
REC EQ
Q8
DG,DP COMPEN
RV6
DG
CT1
DP
RV7
REC CURRENT
Q3
FRE RES COMF
SY, A13a
A17c CHARA SIG
Q21
CHARACTER SIGNAL DRIVER
RV9
CHARACTER WHITE LEVEL
RV10
CHARACTER BLACK LEVEL
VS,321-22b
A18c CHARA SIG DR
SY,A13c
A17a CHARA GATE
IC89
CHARACTER GATE DRIVER
VS,321-22a
A18a CHARA GATE DR
IC53,D8,9
METER DRIVER
IC54
IC53
BUFFER
RF/INPUT METER
FROM 2/3
1 RF LEVEL
RV12
RF METER
IC91-94,96,106
WHITE REF SW
WHITE REF LINE SELECT
OSC FF
TAPE EE
PAL/SECAM
RF/INPUT METER
FROM 3/3
2 PB SYNC
IC87-89,105,C169
EQ PULSE DET
IC85,90
IC60,105
2nd EQ PULSE DET
TP10
OSC OFF 15 TO 3/3
PB V A21a
SV,SY-B13a
RD,CK-A20b
IC 95
HALF H REJECT
PB H A24c
H SYNC 26 TO 2/3
SV,SY-B12a
RD-A20c
IC97-99
PC0
PC7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
I/O EXPANDER PORT
D0
D7
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
AU
CK
PA
PR
SV
VO
MB-IC1
B25a SV D0
B25b SV D1
B25c SV D2
B24a SV D3
B24b SV D4
B24c SV D5
B23a SV D6
B23b SV D7
SV
B22a SV A0
B22b SV A1
B22c SV A2
A0
A1
A2
SV,B26a
SV,B26c
SV,B16c
SV,B26b
B26a ~SV WR
B26c ~SV RD
B23c ~VO CS
B26b ~RESET
WR
RD
CS
RST,CLR

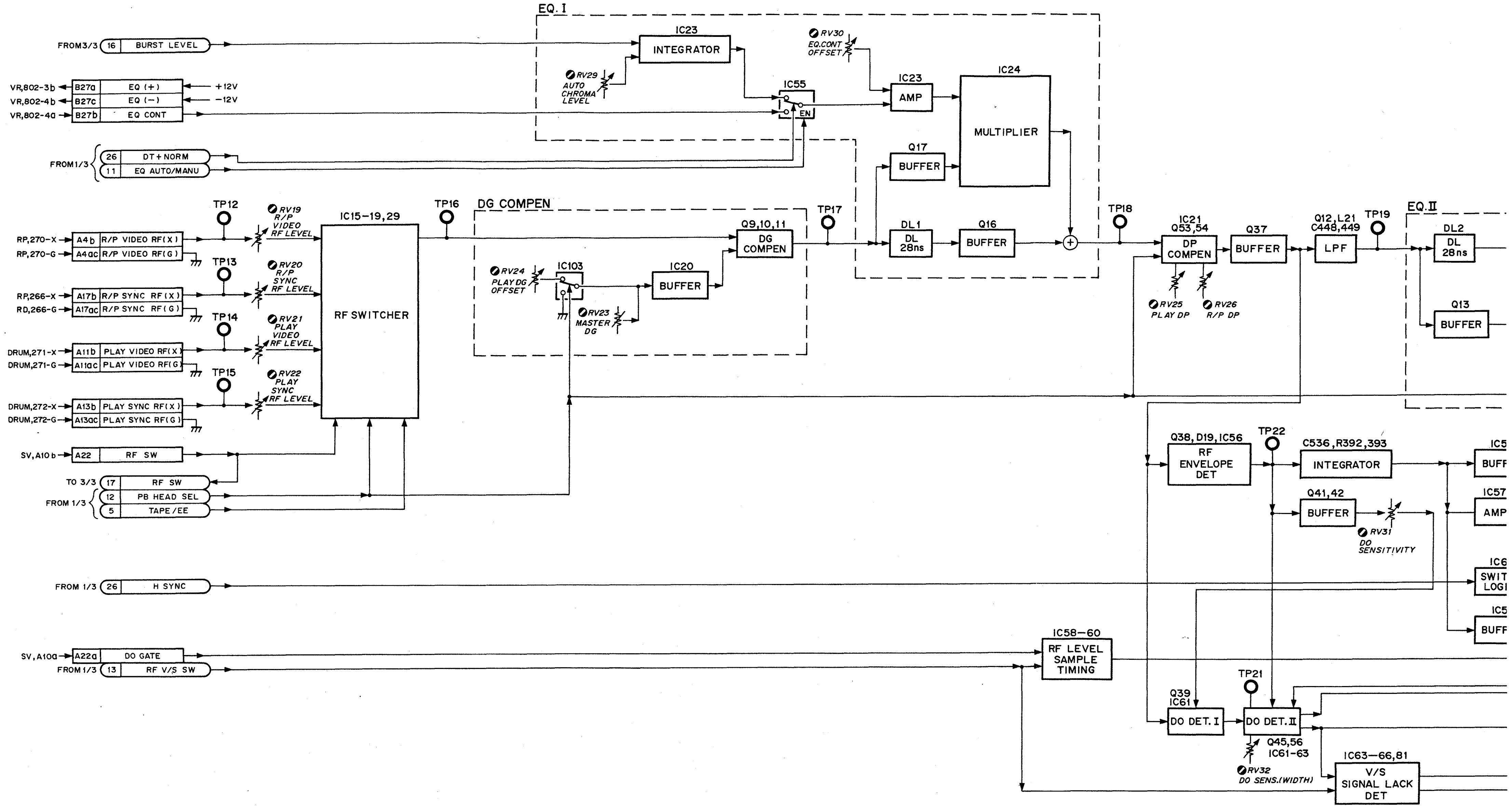

IC11
RV4
DG
IC11,12,13
BUFFER
CT2 DP
EE RF
3
TO 3/3
REF SIG
B6C
SV,A9b
REC EQ
RV7
REC CURRENT
Q8
DG,DP
COMPEN
Q3
FREQ
RESP
COMPEN
IC14
BUFFER
TP9
RV6
DG
CT1
DP
RV8
FREQ RESP
RF VIDEO
B9b
RP,268-X
VID/RF METER
B4b
VR,802-9b
PAL/SECAM
22
TO 3/3
TAPE/EE
5
TO 2/3,3/3
~MARKER/EE
6
TO 3/3
IC97-99
PC0
PC7
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
I/O
EXPANDER
PORT
D0
D7
A0
A1
A2
WR
RD
CS
RST,CLR
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
CTL MONI
B17c
VS,320-7a
RF ENV/MONI
B16a
VS,320-8b
SEL VID MONI
B17b
VS,320-8a
TBC MONI
B18a
VS,321-6b
DEMOD MONI
B18C
VS,321-5b
INPUT MONI
B18b
VS,321-5a
TBC CHARA ON
B17a
VS,321-6a
NON COMP SEL
B16b
VS,321-7a
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PB2
PB4
PB5
PB6
~SYNC LACK
8
~VIDEO LACK
9
FROM 2/3
COLOR/BW
10
FROM 2/3
DT+NORM
26
TO 3/3
EQ AUTO/MANU
11
TO 2/3
PB HEAD SEL
12
TO 2/3,3/3
RF V/S SW
13
FAST BIDIREX
14
TO 2/3

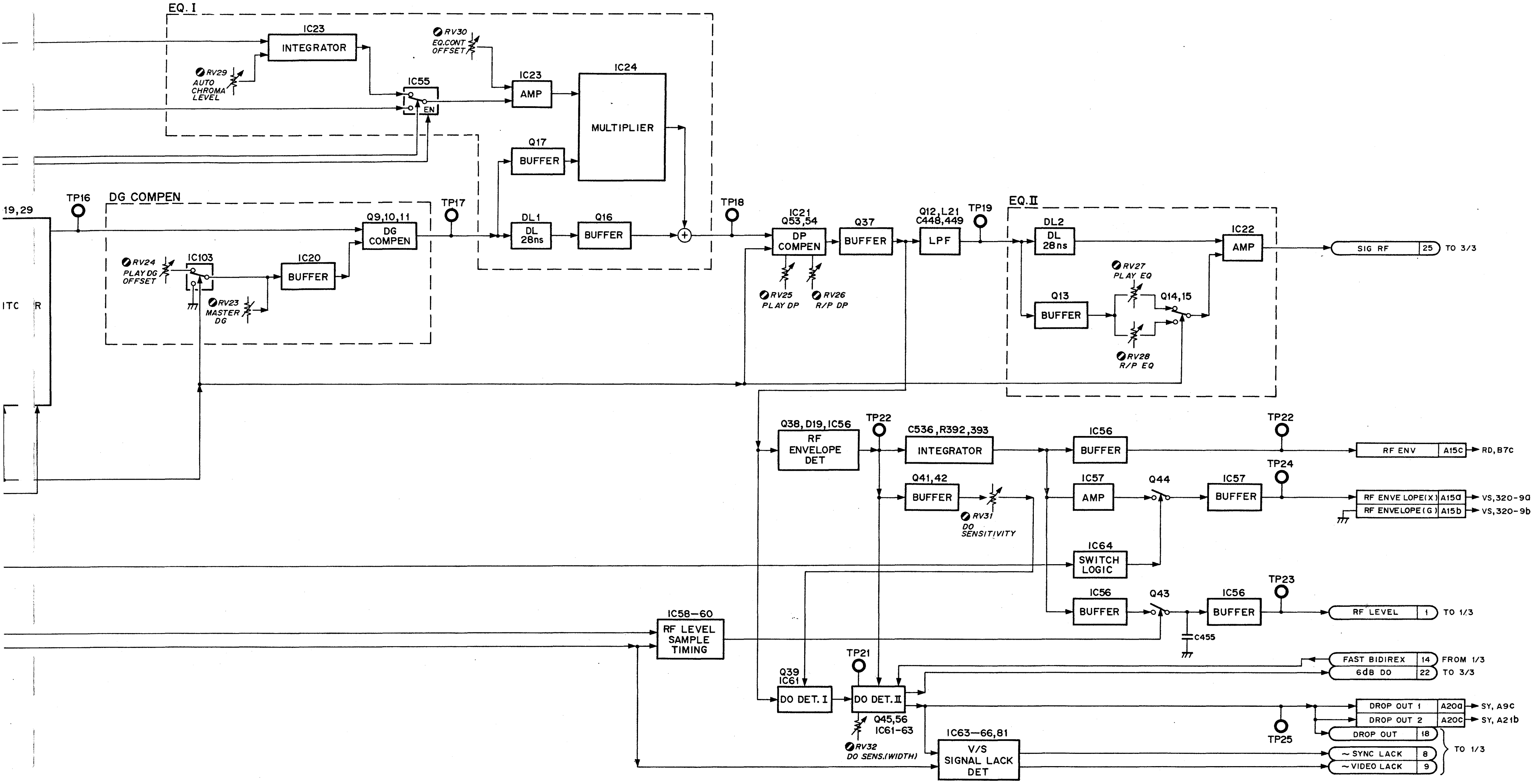
VO-16 BOARD BLOCK DIAGRAM(1/3)

BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

VO-16 BOARD (2/3)

EQUALIZER
ENVELOPE DETECTOR

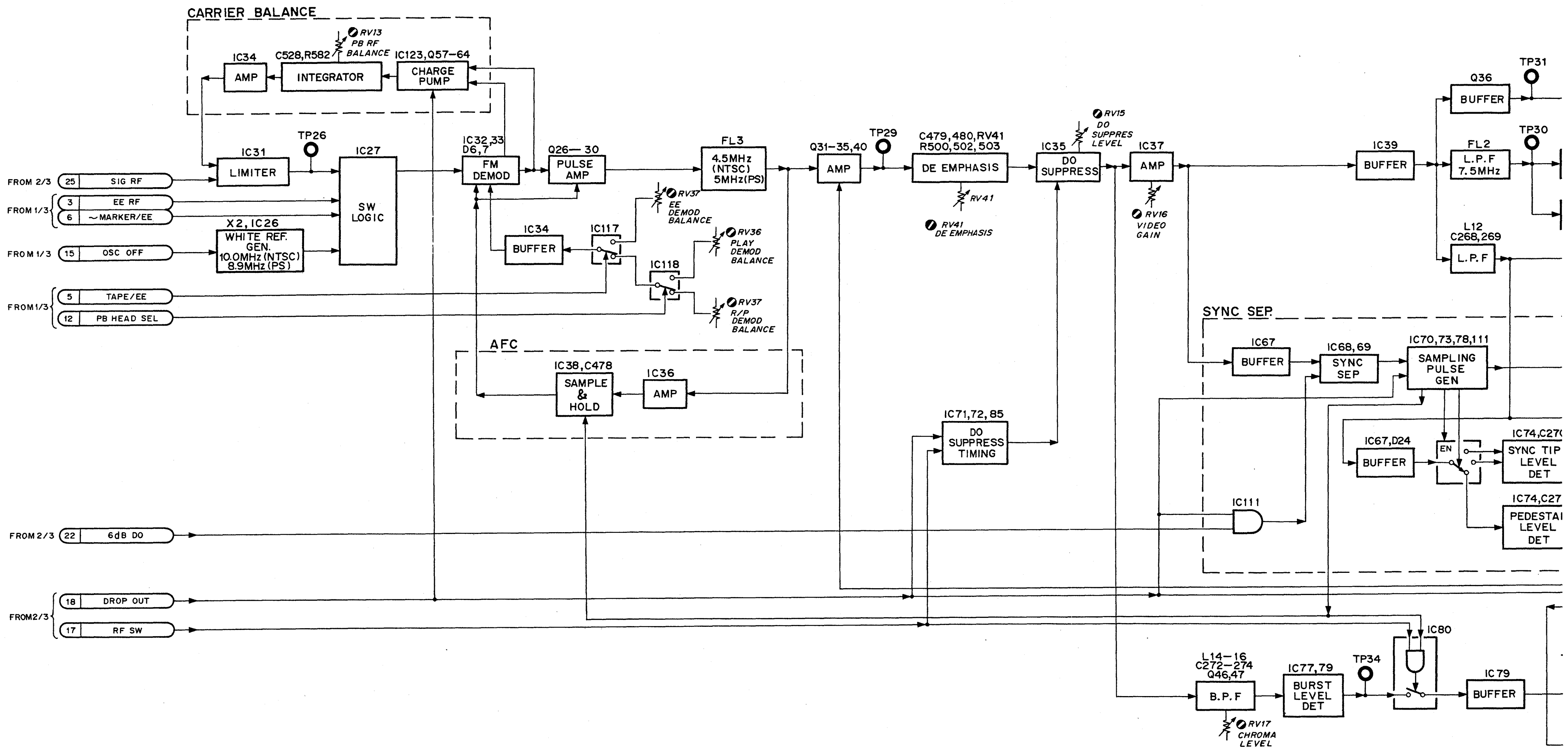

EQ. I
FROM3/3 16 BURST LEVEL
VR,802-3b B27a EQ (+) +12V
VR,802-4b B27c EQ (−) −12V
VR,802-4a B27b EQ CONT
FROM1/3 26 DT+NORM
11 EQ AUTO/MANU
IC23
INTEGRATOR
RV29 AUTO CHROMA LEVEL
IC55
EN
RV30 EQ.CONT OFFSET
IC23
AMP
IC24
MULTIPLIER
Q17
BUFFER
TP12
RV19 R/P VIDEO RF LEVEL
IC15−19,29
TP16
DG COMPEN
RP,270-X A4b R/P VIDEO RF(X)
RP,270-G A4ac R/P VIDEO RF(G)
TP13
RV20 R/P SYNC RF LEVEL
RP,266-X A17b R/P SYNC RF(X)
RD,266-G A17ac R/P SYNC RF(G)
TP14
RV21 PLAY VIDEO RF LEVEL
RF SWITCHER
DRUM,271-X A11b PLAY VIDEO RF(X)
DRUM,271-G A11ac PLAY VIDEO RF(G)
TP15
RV22 PLAY SYNC RF LEVEL
DRUM,272-X A13b PLAY SYNC RF(X)
DRUM,272-G A13ac PLAY SYNC RF(G)
SV,A10b A22 RF SW
TO 3/3 17 RF SW
FROM 1/3 12 PB HEAD SEL
5 TAPE/EE
RV24 PLAY DG OFFSET
IC103
RV23 MASTER DG
IC20
BUFFER
Q9,10,11
DG COMPEN
TP17
DL1
DL 28ns
Q16
BUFFER
TP18
IC21 Q53,54
DP COMPEN
RV25 PLAY DP
RV26 R/P DP
Q37
BUFFER
Q12,L21 C448,449
LPF
TP19
EQ.II
DL2
DL 28ns
Q13
BUFFER
Q38,D19,IC56
RF ENVELOPE DET
TP22
C536,R392,393
INTEGRATOR
IC5
BUFF
Q41,42
BUFFER
RV31 DO SENSITIVITY
IC57
AMP
IC6
SWIT
LOGI
IC5
BUFF
FROM 1/3 26 H SYNC
SV,A10a A22a DO GATE
FROM1/3 13 RF V/S SW
IC58−60
RF LEVEL SAMPLE TIMING
Q39 IC61
DO DET. I
TP21
DO DET. II
Q45,56 IC61-63
RV32 DO SENS.(WIDTH)
IC63−66,81
V/S SIGNAL LACK DET

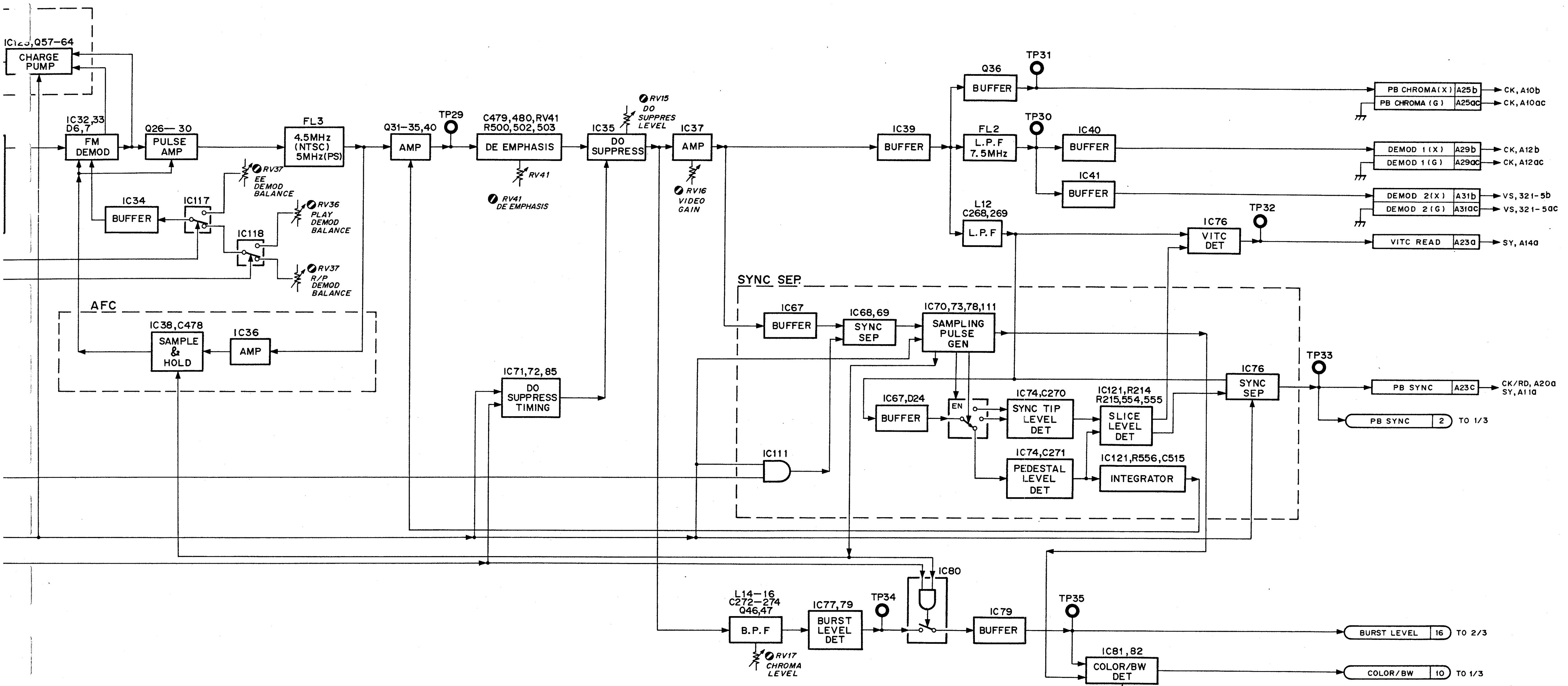

EQ. I
IC23
INTEGRATOR
RV29
AUTO CHROMA LEVEL
IC55
EN
RV30
EQ.CONT OFFSET
IC23
AMP
IC24
MULTIPLIER
Q17
BUFFER
DL1
DL 28ns
Q16
BUFFER
19,29
TP16
DG COMPEN
TP17
Q9,10,11
DG COMPEN
RV24
PLAY DG OFFSET
IC103
RV23
MASTER DG
IC20
BUFFER
ITC R
TP18
IC21
Q53,54
DP COMPEN
RV25
PLAY DP
RV26
R/P DP
Q37
BUFFER
Q12,L21
C448,449
LPF
TP19
EQ.II
DL2
DL 28ns
IC22
AMP
RV27
PLAY EQ
Q13
BUFFER
Q14,15
RV28
R/P EQ
SIG RF
25
TO 3/3
Q38,D19,IC56
RF ENVELOPE DET
TP22
C536,R392,393
INTEGRATOR
IC56
BUFFER
TP22
RF ENV
A15C
RD, B7C
Q41,42
BUFFER
RV31
DO SENSITIVITY
IC57
AMP
Q44
IC57
BUFFER
TP24
RF ENVE LOPE(X)
A15a
VS,320-9a
RF ENVELOPE(G)
A15b
VS,320-9b
IC64
SWITCH LOGIC
IC56
BUFFER
Q43
IC56
BUFFER
C455
TP23
RF LEVEL
1
TO 1/3
IC58—60
RF LEVEL SAMPLE TIMING
TP21
FAST BIDIREX
14
FROM 1/3
6dB DO
22
TO 3/3
Q39
IC61
DO DET. I
DO DET. II
Q45,56
IC61—63
RV32
DO SENS.(WIDTH)
IC63—66,81
V/S SIGNAL LACK DET
TP25
DROP OUT 1
A20a
SY, A9C
DROP OUT 2
A20C
SY, A21b
DROP OUT
18
~SYNC LACK
8
~VIDEO LACK
9
TO 1/3

VO-16 BOARD **BLOCK DIAGRAM (2/3)**
BVH-3000/3100 (J, UC)
BVH-3000PS/3100PS

VO-16 BOARD (3/3)

DEMODULATOR
VIDEO AMPLIFIER
SYNC SEPARATOR

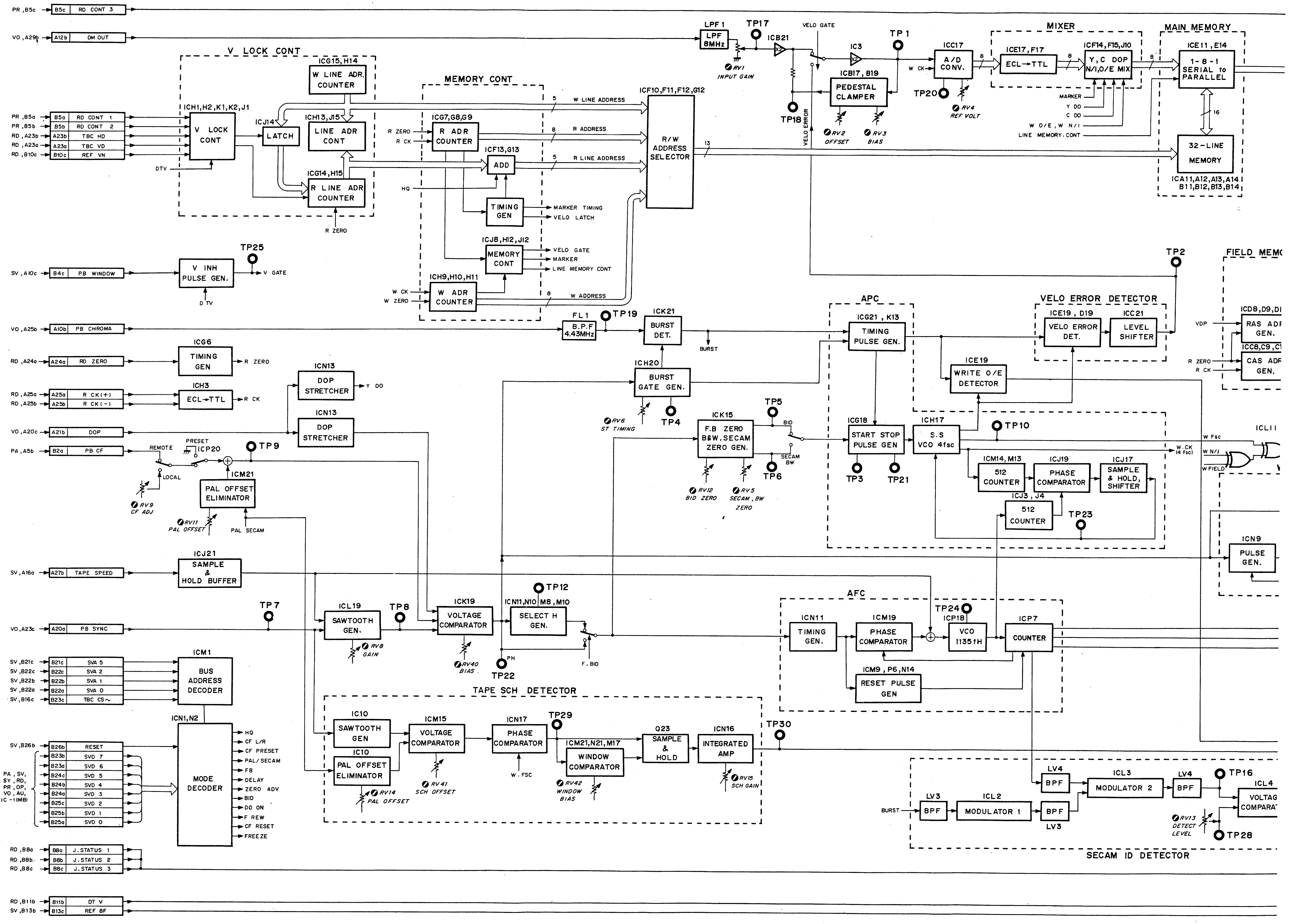

CARRIER BALANCE
RV13 PB RF BALANCE
IC34
AMP
C528,R582
INTEGRATOR
IC123,Q57-64
CHARGE PUMP
FROM 2/3
25 SIG RF
FROM 1/3
3 EE RF
6 ~MARKER/EE
FROM 1/3
15 OSC OFF
FROM 1/3
5 TAPE/EE
12 PB HEAD SEL
IC31
LIMITER
TP26
IC27
SW LOGIC
X2, IC26
WHITE REF. GEN. 10.0MHz (NTSC) 8.9MHz (PS)
IC32,33 D6,7
FM DEMOD
Q26-30
PULSE AMP
IC34
BUFFER
IC117
IC118
RV37 EE DEMOD BALANCE
RV36 PLAY DEMOD BALANCE
RV37 R/P DEMOD BALANCE
FL3
4.5MHz (NTSC) 5MHz(PS)
AFC
IC38,C478
SAMPLE & HOLD
IC36
AMP
Q31-35,40
AMP
TP29
C479,480,RV41 R500,502,503
DE EMPHASIS
RV41
RV41 DE EMPHASIS
RV15 DO SUPPRES LEVEL
IC35
DO SUPPRESS
IC37
AMP
RV16 VIDEO GAIN
IC71,72,85
DO SUPPRESS TIMING
FROM 2/3
22 6dB DO
FROM 2/3
18 DROP OUT
17 RF SW
IC39
BUFFER
Q36
BUFFER
TP31
FL2
L.P.F 7.5MHz
TP30
L12 C268,269
L.P.F
SYNC SEP
IC67
BUFFER
IC68,69
SYNC SEP
IC70,73,78,111
SAMPLING PULSE GEN
IC67,D24
BUFFER
EN
IC74,C270
SYNC TIP LEVEL DET
IC74,C27
PEDESTAL LEVEL DET
IC111
IC80
L14-16 C272-274 Q46,47
B.P.F
RV17 CHROMA LEVEL
IC77,79
BURST LEVEL DET
TP34
IC79
BUFFER

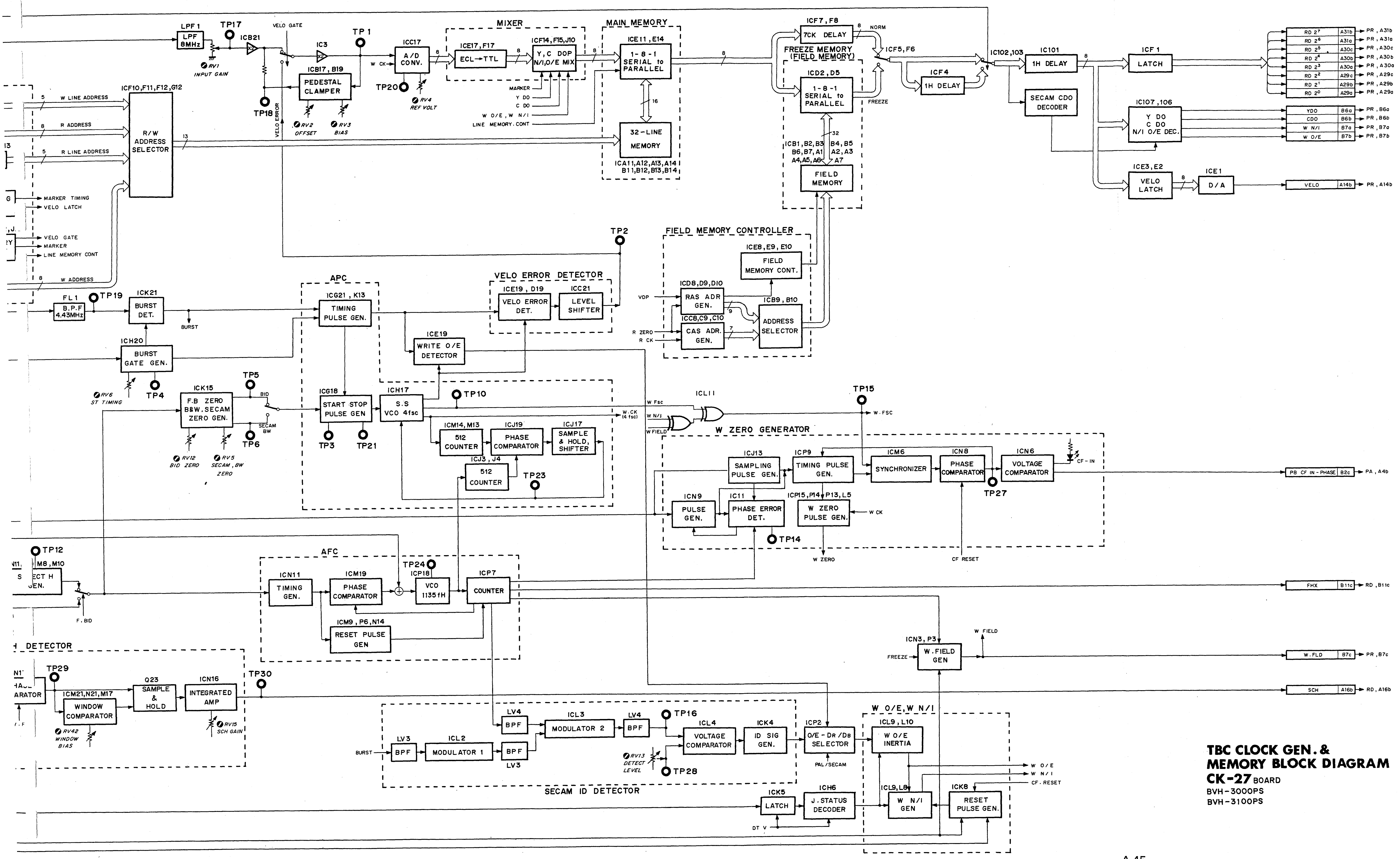

IC125,Q57-64
CHARGE PUMP
IC32,33 D6,7
FM DEMOD
Q26— 30
PULSE AMP
FL3
4.5MHz (NTSC) 5MHz(PS)
RV37 EE DEMOD BALANCE
RV36 PLAY DEMOD BALANCE
RV37 R/P DEMOD BALANCE
IC34
BUFFER
IC117
IC118
AFC
IC38,C478
SAMPLE & HOLD
IC36
AMP
Q31—35,40
AMP
TP29
C479,480,RV41 R500,502,503
DE EMPHASIS
RV41
RV41 DE EMPHASIS
IC35
DO SUPPRESS
RV15 DO SUPPRES LEVEL
IC37
AMP
RV16 VIDEO GAIN
IC71,72,85
DO SUPPRESS TIMING
IC39
BUFFER
Q36
BUFFER
TP31
FL2
L.P.F 7.5MHz
TP30
IC40
BUFFER
IC41
BUFFER
L12 C268,269
L.P.F
IC76
VITC DET
TP32
PB CHROMA(X) A25b
PB CHROMA (G) A25ac
CK, A10b
CK, A10ac
DEMOD 1(X) A29b
DEMOD 1(G) A29ac
CK, A12b
CK, A12ac
DEMOD 2(X) A31b
DEMOD 2(G) A31ac
VS, 321-5b
VS, 321-5ac
VITC READ A23a
SY, A14a
SYNC SEP
IC67
BUFFER
IC68,69
SYNC SEP
IC70,73,78,111
SAMPLING PULSE GEN
IC67,D24
BUFFER
EN
IC74,C270
SYNC TIP LEVEL DET
IC121,R214 R215,554,555
SLICE LEVEL DET
IC74,C271
PEDESTAL LEVEL DET
IC121,R556,C515
INTEGRATOR
IC111
IC76
SYNC SEP
TP33
PB SYNC A23C
CK/RD, A20a SY, A11a
PB SYNC 2
TO 1/3
L14-16 C272-274 Q46,47
B.P.F
RV17 CHROMA LEVEL
IC77,79
BURST LEVEL DET
TP34
IC80
IC79
BUFFER
TP35
IC81,82
COLOR/BW DET
BURST LEVEL 16
TO 2/3
COLOR/BW 10
TO 1/3
PAL/SECAM 22
FROM 1/3

VO-16 BOARD **BLOCK DIAGRAM (3/3)**
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

CK-27 BOARD

TBC CLOCK GENERATOR & MEMORY

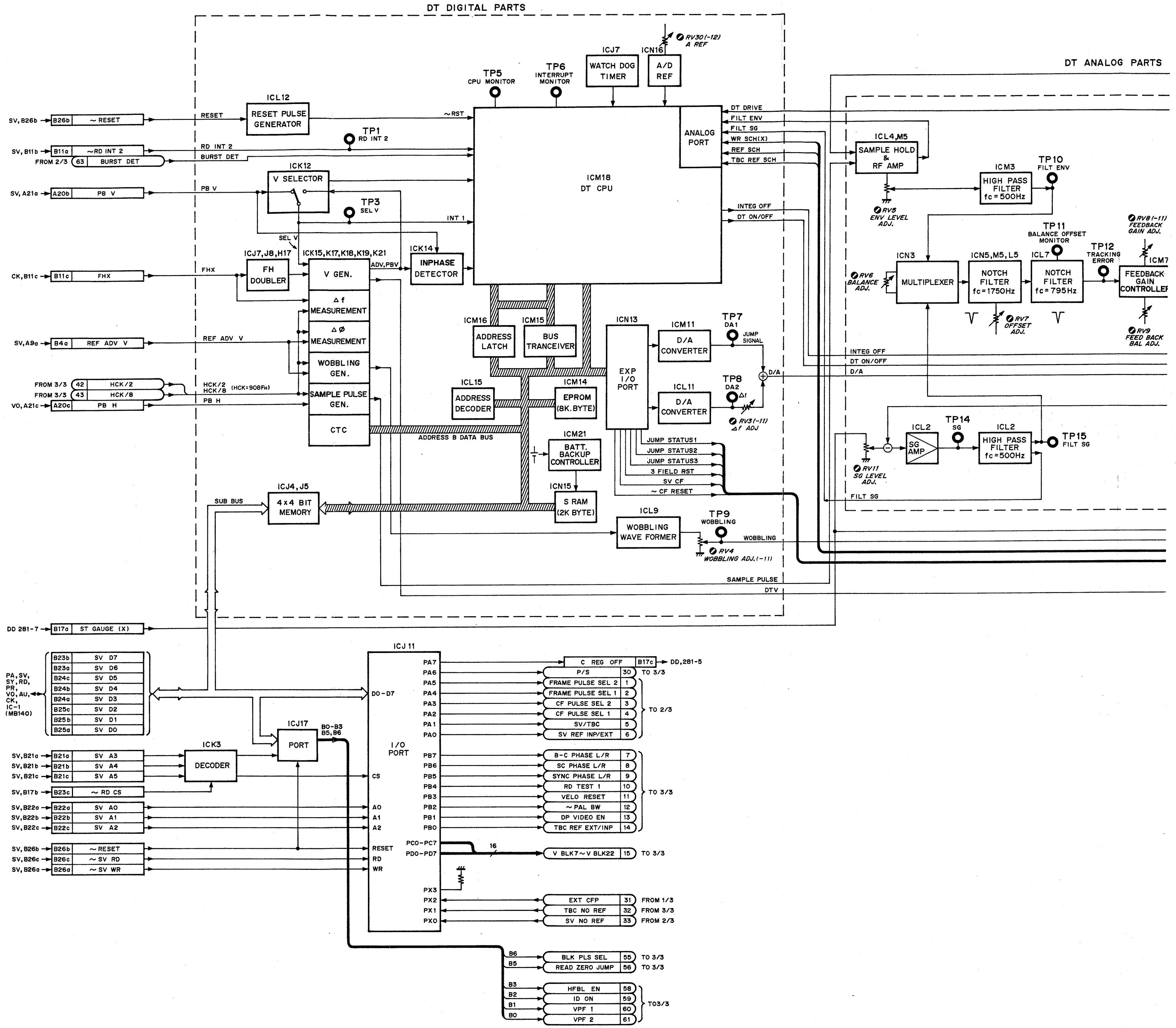

PR, B5c B5c RD CONT 3
VO, A29b A12b DM OUT
V LOCK CONT
ICG15, H14 W LINE ADR. COUNTER
ICH1, H2, K1, K2, J1 V LOCK CONT
ICJ14 LATCH
ICH13, J15 LINE ADR CONT
ICG14, H15 R LINE ADR COUNTER
PR, B5a B5a RD CONT 1
PR, B5b B5b RD CONT 2
RD, A23b A23b TBC HD
RD, A23a A23a TBC VD
RD, B10c B10c REF VN
DTV
R ZERO
MEMORY CONT
ICG7, G8, G9 R ADR COUNTER
R ZERO
R CK
ICF13, G13 ADD
HQ
TIMING GEN
ICJ8, H12, J12 MEMORY CONT
ICH9, H10, H11 W ADR COUNTER
W CK
W ZERO
W LINE ADDRESS
R ADDRESS
R LINE ADDRESS
W ADDRESS
MARKER TIMING
VELO LATCH
VELO GATE
MARKER
LINE MEMORY CONT
ICF10, F11, F12, G12 R/W ADDRESS SELECTOR
13
LPF1 LPF 8MHz
RV1 INPUT GAIN
TP17
ICB21
VELO GATE
VELO ERROR
TP18
IC3
ICB17, B19 PEDESTAL CLAMPER
RV2 OFFSET
RV3 BIAS
TP1
ICC17 A/D CONV.
W CK
TP20
RV4 REF VOLT
MIXER
ICE17, F17 ECL→TTL
ICF14, F15, J10 Y, C DOP N/1, O/E MIX
MARKER
Y DO
C DO
W O/E, W N/1
LINE MEMORY CONT
MAIN MEMORY
ICE11, E14 1-8-1 SERIAL to PARALLEL
16
32-LINE MEMORY
ICA11, A12, A13, A14 B11, B12, B13, B14
TP2
FIELD MEM
SV, A10c B4c PB WINDOW
TP25
V INH PULSE GEN.
V GATE
DTV
VO, A25b A10b PB CHROMA
FL1 B.P.F 4.43MHz
TP19
ICK21 BURST DET.
BURST
ICH20 BURST GATE GEN.
RV6 ST TIMING
TP4
APC
ICG21, K13 TIMING PULSE GEN.
VELO ERROR DETECTOR
ICE19, D19 VELO ERROR DET.
ICC21 LEVEL SHIFTER
ICE19 WRITE O/E DETECTOR
VDP
ICD8, D9, D1 RAS ADR GEN.
ICC8, C9, C1 CAS ADR GEN.
R ZERO
R CK
RD, A24a A24a RD ZERO
ICG6 TIMING GEN
R ZERO
RD, A25a A25a R CK(+)
RD, A25b A25b R CK(-)
ICH3 ECL→TTL
R CK
ICN13 DOP STRETCHER
Y DO
ICN13 DOP STRETCHER
VO, A20c A21b DOP
PA, A5b B2a PB CF
REMOTE
PRESET
ICP20
LOCAL
TP9
RV9 CF ADJ
ICM21 PAL OFFSET ELIMINATOR
RV11 PAL OFFSET
PAL SECAM
TP5
ICK15 F.B ZERO B&W, SECAM ZERO GEN.
BID
SECAM BW
TP6
RV12 BID ZERO
RV5 SECAM, BW ZERO
ICG18 START STOP PULSE GEN
TP3
TP21
ICH17 S.S VCO 4fsc
TP10
W Fsc
W.CK (4 fsc)
W N/1
W FIELD
ICL11
ICM14, M13 512 COUNTER
ICJ19 PHASE COMPARATOR
ICJ17 SAMPLE & HOLD, SHIFTER
ICJ3, J4 512 COUNTER
TP23
ICN9 PULSE GEN.
SV, A16a A27b TAPE SPEED
ICJ21 SAMPLE & HOLD BUFFER
TP7
VO, A23c A20a PB SYNC
ICL19 SAWTOOTH GEN.
RV8 GAIN
TP8
ICK19 VOLTAGE COMPARATOR
RV40 BIAS
TP12
ICN11, N10, M8, M10 SELECT H GEN.
PH
TP22
F.BID
AFC
ICN11 TIMING GEN.
ICM19 PHASE COMPARATOR
TP24
ICP18 VCO 1135 fH
ICP7 COUNTER
ICM9, P6, N14 RESET PULSE GEN
SV, B21c B21c SVA 5
SV, B22c B22c SVA 2
SV, B22b B22b SVA 1
SV, B22a B22a SVA 0
SV, B16c B23c TBC CS
ICM1 BUS ADDRESS DECODER
ICN1, N2
SV, B26b B26b RESET
B23b SVD 7
B23a SVD 6
B24c SVD 5
B24b SVD 4
B24a SVD 3
B25c SVD 2
B25b SVD 1
B25a SVD 0
PA, SV, SY, RD, PR, OP, VO, AU, IC-1(MB)
MODE DECODER
HQ
CF L/R
CF PRESET
PAL/SECAM
FB
DELAY
ZERO ADV
BID
DO ON
F REW
CF RESET
FREEZE
TAPE SCH DETECTOR
IC10 SAWTOOTH GEN
IC10 PAL OFFSET ELIMINATOR
RV14 PAL OFFSET
ICM15 VOLTAGE COMPARATOR
RV41 SCH OFFSET
ICN17 PHASE COMPARATOR
W.FSC
TP29
ICM21, N21, M17 WINDOW COMPARATOR
RV42 WINDOW BIAS
Q23 SAMPLE & HOLD
ICN16 INTEGRATED AMP
RV15 SCH GAIN
TP30
SECAM ID DETECTOR
BURST
LV3 BPF
ICL2 MODULATOR 1
LV3 BPF
LV4 BPF
ICL3 MODULATOR 2
LV4 BPF
TP16
ICL4 VOLTAG COMPARAT
RV13 DETECT LEVEL
TP28
RD, B8a B8a J.STATUS 1
RD, B8b B8b J.STATUS 2
RD, B8c B8c J.STATUS 3
RD, B11b B11b DT V
SV, B13b B13c REF 8F

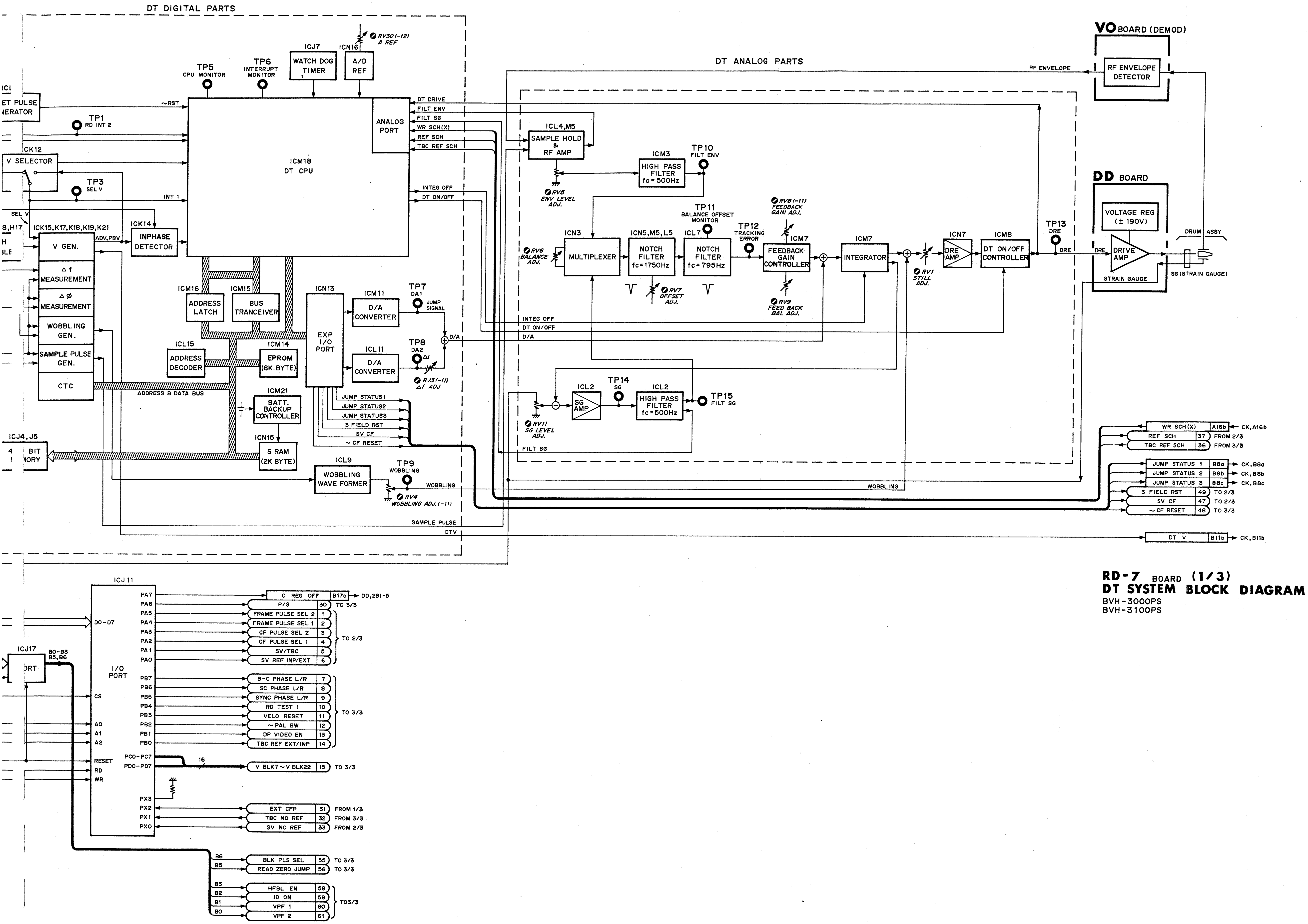

LPF1
LPF 8MHz
TP17
ICB21
VELO GATE
RV1 INPUT GAIN
IC3
TP1
ICC17
A/D CONV.
W CK
TP20
RV4 REF VOLT
ICB17, B19
PEDESTAL CLAMPER
TP18
RV2 OFFSET
RV3 BIAS
VELO ERROR
MIXER
ICE17, F17
ECL→TTL
ICF14, F15, J10
Y, C DOP N/I, O/E MIX
MARKER
Y DO
C DO
W O/E, W N/I
LINE MEMORY. CONT
MAIN MEMORY
ICE11, E14
1-8-1 SERIAL to PARALLEL
16
32-LINE MEMORY
ICA11, A12, A13, A14 B11, B12, B13, B14
ICF10, F11, F12, G12
R/W ADDRESS SELECTOR
W LINE ADDRESS
R ADDRESS
R LINE ADDRESS
13
MARKER TIMING
VELO LATCH
VELO GATE
MARKER
LINE MEMORY CONT
W ADDRESS
ICF7, F8
7CK DELAY
NORM
FREEZE MEMORY (FIELD MEMORY)
ICF5, F6
ICD2, D5
1-8-1 SERIAL to PARALLEL
FREEZE
ICF4
1H DELAY
32
ICB1, B2, B3, B4, B5 B6, B7, A1, A2, A3 A4, A5, A6, A7
FIELD MEMORY
IC102, 103
IC101
1H DELAY
SECAM CDO DECODER
ICF1
LATCH
IC107, 106
Y DO C DO N/I O/E DEC.
ICE3, E2
VELO LATCH
ICE1
D/A
RD 2⁷ A31b PR, A31b
RD 2⁶ A31a PR, A31a
RD 2⁵ A30c PR, A30c
RD 2⁴ A30b PR, A30b
RD 2³ A30a PR, A30a
RD 2² A29c PR, A29c
RD 2¹ A29b PR, A29b
RD 2⁰ A29a PR, A29a
YDO B6a PR, B6a
CDO B6b PR, B6b
W N/I B7a PR, B7a
W O/E B7b PR, B7b
VELO A14b PR, A14b
TP2
FIELD MEMORY CONTROLLER
ICE8, E9, E10
FIELD MEMORY CONT.
ICD8, D9, D10
VDP
RAS ADR GEN.
ICC8, C9, C10
CAS ADR. GEN.
R ZERO
R CK
ICB9, B10
ADDRESS SELECTOR
FL1
B.P.F 4.43MHz
TP19
ICK21
BURST DET.
BURST
ICH20
BURST GATE GEN.
RV6 ST TIMING
TP4
APC
ICG21, K13
TIMING PULSE GEN.
VELO ERROR DETECTOR
ICE19, D19
VELO ERROR DET.
ICC21
LEVEL SHIFTER
ICE19
WRITE O/E DETECTOR
TP5
ICK15
F.B ZERO B&W, SECAM ZERO GEN.
BID
SECAM BW
TP6
RV12 BID ZERO
RV5 SECAM, BW ZERO
ICG18
START STOP PULSE GEN
TP3
TP21
ICH17
S.S VCO 4fsc
TP10
W. CK (4 fsc)
ICM14, M13
512 COUNTER
ICJ19
PHASE COMPARATOR
ICJ17
SAMPLE & HOLD, SHIFTER
ICJ3, J4
512 COUNTER
TP23
ICL11
W Fsc
W N/I
W FIELD
TP15
W. FSC
W ZERO GENERATOR
ICJ13
SAMPLING PULSE GEN.
ICP9
TIMING PULSE GEN.
ICM6
SYNCHRONIZER
ICN8
PHASE COMPARATOR
ICN6
VOLTAGE COMPARATOR
CF-IN
TP27
PB CF IN-PHASE B2c PA, A4b
ICN9
PULSE GEN.
IC11
PHASE ERROR DET.
ICP15, P14, P13, L5
W ZERO PULSE GEN.
W CK
TP14
W ZERO
CF RESET
TP12
M8, M10
ECT H GEN.
F. BID
AFC
TP24
ICN11
TIMING GEN.
ICM19
PHASE COMPARATOR
ICP18
VCO 1135 fH
ICP7
COUNTER
ICM9, P6, N14
RESET PULSE GEN
FHX B11c RD, B11c
W FIELD
ICN3, P3
FREEZE
W. FIELD GEN
W. FLD B7c PR, B7c
DETECTOR
TP29
ARATOR
ICM21, N21, M17
WINDOW COMPARATOR
RV42 WINDOW BIAS
Q23
SAMPLE & HOLD
ICN16
INTEGRATED AMP
RV15 SCH GAIN
TP30
SCH A16b RD, A16b
BURST
LV3
BPF
ICL2
MODULATOR 1
LV4
BPF
ICL3
MODULATOR 2
TP16
ICL4
VOLTAGE COMPARATOR
ICK4
ID SIG GEN.
RV13 DETECT LEVEL
TP28
SECAM ID DETECTOR
ICP2
O/E - DR/DB SELECTOR
PAL/SECAM
W O/E, W N/I
ICL9, L10
W O/E INERTIA
W O/E
W N/I
CF. RESET
ICL9, L8
W N/I GEN
ICK8
RESET PULSE GEN.
ICK5
LATCH
DT V
ICH6
J. STATUS DECODER

TBC CLOCK GEN. & MEMORY BLOCK DIAGRAM
CK-27 BOARD
BVH-3000PS
BVH-3100PS

RD-7 BOARD (1/3)

DT SYSTEM

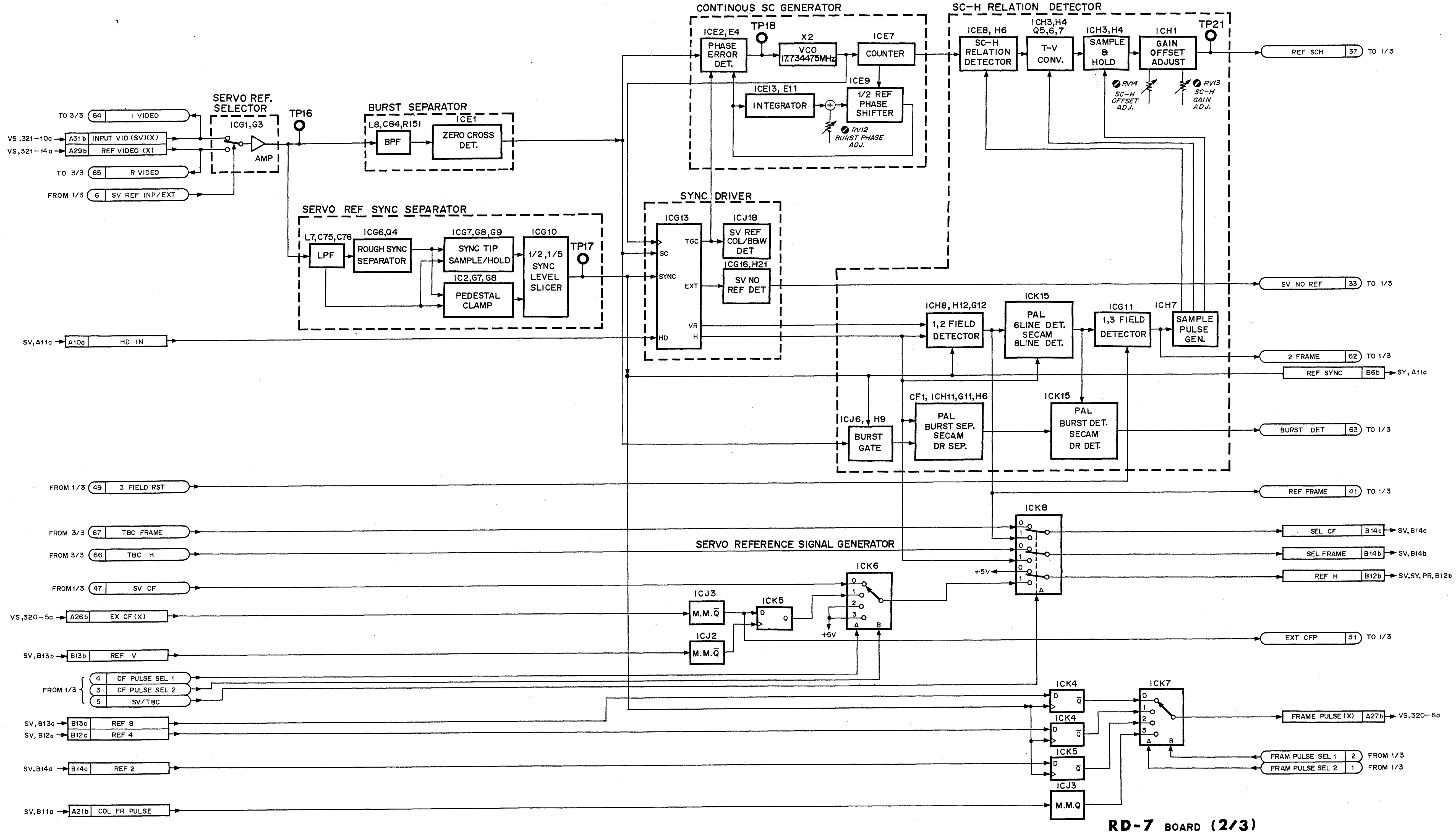

DT DIGITAL PARTS
DT ANALOG PARTS
SV, B26b
B26b ~RESET
RESET
ICL12
RESET PULSE GENERATOR
~RST
SV, B11b
B11a ~RD INT 2
FROM 2/3
63 BURST DET
RD INT 2
BURST DET
TP1
RD INT 2
ICK12
V SELECTOR
SV, A21a
A20b PB V
PB V
TP3
SEL V
INT 1
SEL V
TP5
CPU MONITOR
TP6
INTERRUPT MONITOR
ICJ7
WATCH DOG TIMER
ICN16
A/D REF
RV30(-12)
A REF
ICM18
DT CPU
ANALOG PORT
DT DRIVE
FILT ENV
FILT SG
WR SCH(X)
REF SCH
TBC REF SCH
INTEG OFF
DT ON/OFF
ICJ7,J8,H17
FH DOUBLER
ICK15,K17,K18,K19,K21
V GEN.
Δf MEASUREMENT
ΔØ MEASUREMENT
WOBBLING GEN.
SAMPLE PULSE GEN.
CTC
ICK14
INPHASE DETECTOR
ADV,PBV
CK, B11c
B11c FHX
FHX
SV, A9a
B4a REF ADV V
REF ADV V
FROM 3/3
42 HCK/2
FROM 3/3
43 HCK/8
VO, A21c
A20c PB H
HCK/2
HCK/8
(HCK=908FH)
PB H
ICM16
ADDRESS LATCH
ICM15
BUS TRANCEIVER
ICN13
EXP I/O PORT
ICM11
D/A CONVERTER
TP7
DA1
JUMP SIGNAL
ICL11
D/A CONVERTER
TP8
DA2
Δf
RV31(-11)
Δf ADJ
D/A
ICL15
ADDRESS DECODER
ICM14
EPROM (8K.BYTE)
ADDRESS B DATA BUS
ICM21
BATT. BACKUP CONTROLLER
ICN15
S RAM (2K BYTE)
JUMP STATUS1
JUMP STATUS2
JUMP STATUS3
3 FIELD RST
SV CF
~CF RESET
ICJ4, J5
4x4 BIT MEMORY
SUB BUS
ICL9
WOBBLING WAVE FORMER
TP9
WOBBLING
WOBBLING
RV4
WOBBLING ADJ.(-11)
SAMPLE PULSE
DTV
ICL4,M5
SAMPLE HOLD & RF AMP
RV5
ENV LEVEL ADJ.
ICM3
HIGH PASS FILTER fc=500Hz
TP10
FILT ENV
TP11
BALANCE OFFSET MONITOR
TP12
TRACKING ERROR
RV8(-11)
FEEDBACK GAIN ADJ.
ICM7
ICN3
MULTIPLEXER
RV6
BALANCE ADJ.
ICN5,M5,L5
NOTCH FILTER fc=1750Hz
ICL7
NOTCH FILTER fc=795Hz
FEEDBACK GAIN CONTROLLER
RV7
OFFSET ADJ.
RV9
FEED BACK BAL ADJ.
INTEG OFF
DT ON/OFF
D/A
ICL2
SG AMP
TP14
SG
ICL2
HIGH PASS FILTER fc=500Hz
TP15
FILT SG
RV11
SG LEVEL ADJ.
FILT SG
DD 281-7
B17a ST GAUGE (X)
PA, SV, SY, RD, PR, VO, AU, CK, IC-1 (MB140)
B23b SV D7
B23a SV D6
B24c SV D5
B24b SV D4
B24a SV D3
B25c SV D2
B25b SV D1
B25a SV D0
ICJ11
D0-D7
I/O PORT
ICJ17
PORT
B0-B3
B5, B6
ICK3
DECODER
SV, B21a
B21a SV A3
SV, B21b
B21b SV A4
SV, B21c
B21c SV A5
SV, B17b
B23c ~RD CS
SV, B22a
B22a SV A0
SV, B22b
B22b SV A1
SV, B22c
B22c SV A2
SV, B26b
B26b ~RESET
SV, B26c
B26c ~SV RD
SV, B26a
B26a ~SV WR
CS
A0
A1
A2
RESET
RD
WR
PA7
PA6
PA5
PA4
PA3
PA2
PA1
PA0
PB7
PB6
PB5
PB4
PB3
PB2
PB1
PB0
PC0-PC7
PD0-PD7
16
PX3
PX2
PX1
PX0
C REG OFF
B17c
DD, 281-5
P/S 30 TO 3/3
FRAME PULSE SEL 2 1
FRAME PULSE SEL 1 2
CF PULSE SEL 2 3
CF PULSE SEL 1 4
SV/TBC 5
SV REF INP/EXT 6
TO 2/3
B-C PHASE L/R 7
SC PHASE L/R 8
SYNC PHASE L/R 9
RD TEST 1 10
VELO RESET 11
~PAL BW 12
DP VIDEO EN 13
TBC REF EXT/INP 14
TO 3/3
V BLK7~V BLK22 15 TO 3/3
EXT CFP 31 FROM 1/3
TBC NO REF 32 FROM 3/3
SV NO REF 33 FROM 2/3
B6
B5
BLK PLS SEL 55 TO 3/3
READ ZERO JUMP 56 TO 3/3
B3
B2
B1
B0
HFBL EN 58
ID ON 59
VPF 1 60
VPF 2 61
TO3/3


DT DIGITAL PARTS
DT ANALOG PARTS
ICJ7 WATCH DOG TIMER
ICN16 A/D REF
RV30(-12) A REF
TP5 CPU MONITOR
TP6 INTERRUPT MONITOR
TP1 RD INT 2
TP3 SEL V
~RST
INT 1
ICM18 DT CPU
ANALOG PORT
DT DRIVE
FILT ENV
FILT SG
WR SCH(X)
REF SCH
TBC REF SCH
INTEG OFF
DT ON/OFF
ET PULSE
ERATOR
CK12
V SELECTOR
SEL V
8,H17
ICK15,K17,K18,K19,K21
V GEN.
Δf MEASUREMENT
Δφ MEASUREMENT
WOBBLING GEN.
SAMPLE PULSE GEN.
CTC
ADV,PBV
ICK14 INPHASE DETECTOR
ICM16 ADDRESS LATCH
ICM15 BUS TRANCEIVER
ICN13 EXP I/O PORT
ICM11 D/A CONVERTER
ICL11 D/A CONVERTER
TP7 DA1 JUMP SIGNAL
TP8 DA2 Δf
RV3(-11) Δf ADJ
D/A
ICL15 ADDRESS DECODER
ICM14 EPROM (8K.BYTE)
ICM21 BATT. BACKUP CONTROLLER
ICN15 S RAM (2K BYTE)
ADDRESS & DATA BUS
ICJ4,J5
BIT MORY
JUMP STATUS1
JUMP STATUS2
JUMP STATUS3
3 FIELD RST
SV CF
~CF RESET
ICL9 WOBBLING WAVE FORMER
TP9 WOBBLING
RV4 WOBBLING ADJ.(-11)
WOBBLING
SAMPLE PULSE
DTV
ICL4,M5 SAMPLE HOLD & RF AMP
RV5 ENV LEVEL ADJ.
ICM3 HIGH PASS FILTER fc=500Hz
TP10 FILT ENV
RV6 BALANCE ADJ.
ICN3 MULTIPLEXER
ICN5,M5,L5 NOTCH FILTER fc=1750Hz
RV7 OFFSET ADJ.
ICL7 NOTCH FILTER fc=795Hz
TP11 BALANCE OFFSET MONITOR
TP12 TRACKING ERROR
RV8(-11) FEEDBACK GAIN ADJ.
ICM7 FEEDBACK GAIN CONTROLLER
RV9 FEED BACK BAL ADJ.
ICM7 INTEGRATOR
RV1 STILL ADJ.
ICN7 DRE AMP
ICM8 DT ON/OFF CONTROLLER
TP13 DRE
DRE
ICL2 SG AMP
TP14 SG
ICL2 HIGH PASS FILTER fc=500Hz
TP15 FILT SG
RV11 SG LEVEL ADJ.
FILT SG
INTEG OFF
DT ON/OFF
D/A
WOBBLING
VO BOARD (DEMOD)
RF ENVELOPE DETECTOR
RF ENVELOPE
DD BOARD
VOLTAGE REG (± 190V)
DRIVE AMP
STRAIN GAUGE
DRUM ASSY
SG(STRAIN GAUGE)
WR SCH(X) A16b ← CK,A16b
REF SCH 37 FROM 2/3
TBC REF SCH 36 FROM 3/3
JUMP STATUS 1 B8a → CK,B8a
JUMP STATUS 2 B8b → CK,B8b
JUMP STATUS 3 B8c → CK,B8c
3 FIELD RST 49 TO 2/3
SV CF 47 TO 2/3
~CF RESET 48 TO 3/3
DT V B11b → CK,B11b
ICJ11
I/O PORT
D0-D7
CS
A0
A1
A2
RESET
RD
WR
PA7 C REG OFF B17c → DD,2B1-5
PA6 P/S 30 TO 3/3
PA5 FRAME PULSE SEL 2 1
PA4 FRAME PULSE SEL 1 2
PA3 CF PULSE SEL 2 3
PA2 CF PULSE SEL 1 4
PA1 SV/TBC 5
PA0 SV REF INP/EXT 6
TO 2/3
PB7 B-C PHASE L/R 7
PB6 SC PHASE L/R 8
PB5 SYNC PHASE L/R 9
PB4 RD TEST 1 10
PB3 VELO RESET 11
PB2 ~PAL BW 12
PB1 DP VIDEO EN 13
PB0 TBC REF EXT/INP 14
TO 3/3
PC0-PC7
PD0-PD7
16
V BLK7~V BLK22 15 TO 3/3
PX3
PX2 EXT CFP 31 FROM 1/3
PX1 TBC NO REF 32 FROM 3/3
PX0 SV NO REF 33 FROM 2/3
ICJ17
ORT
B0-B3
B5,B6
B6 BLK PLS SEL 55 TO 3/3
B5 READ ZERO JUMP 56 TO 3/3
B3 HFBL EN 58
B2 ID ON 59
B1 VPF 1 60
B0 VPF 2 61
TO3/3

RD-7 BOARD (1/3)
DT SYSTEM BLOCK DIAGRAM

BVH-3000PS
BVH-3100PS

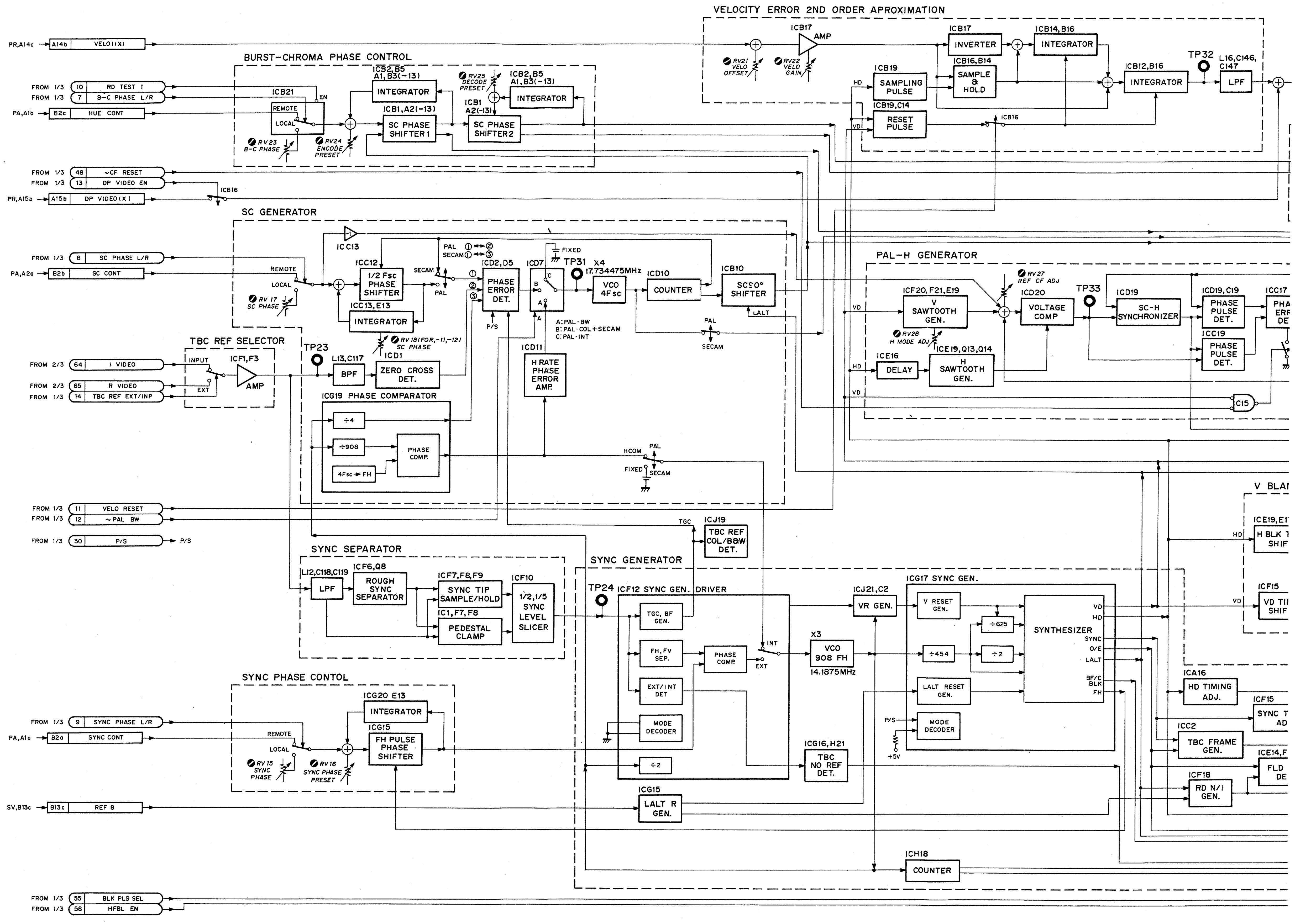
RD-7 BOARD (2/3)
SERVO REFERENCE

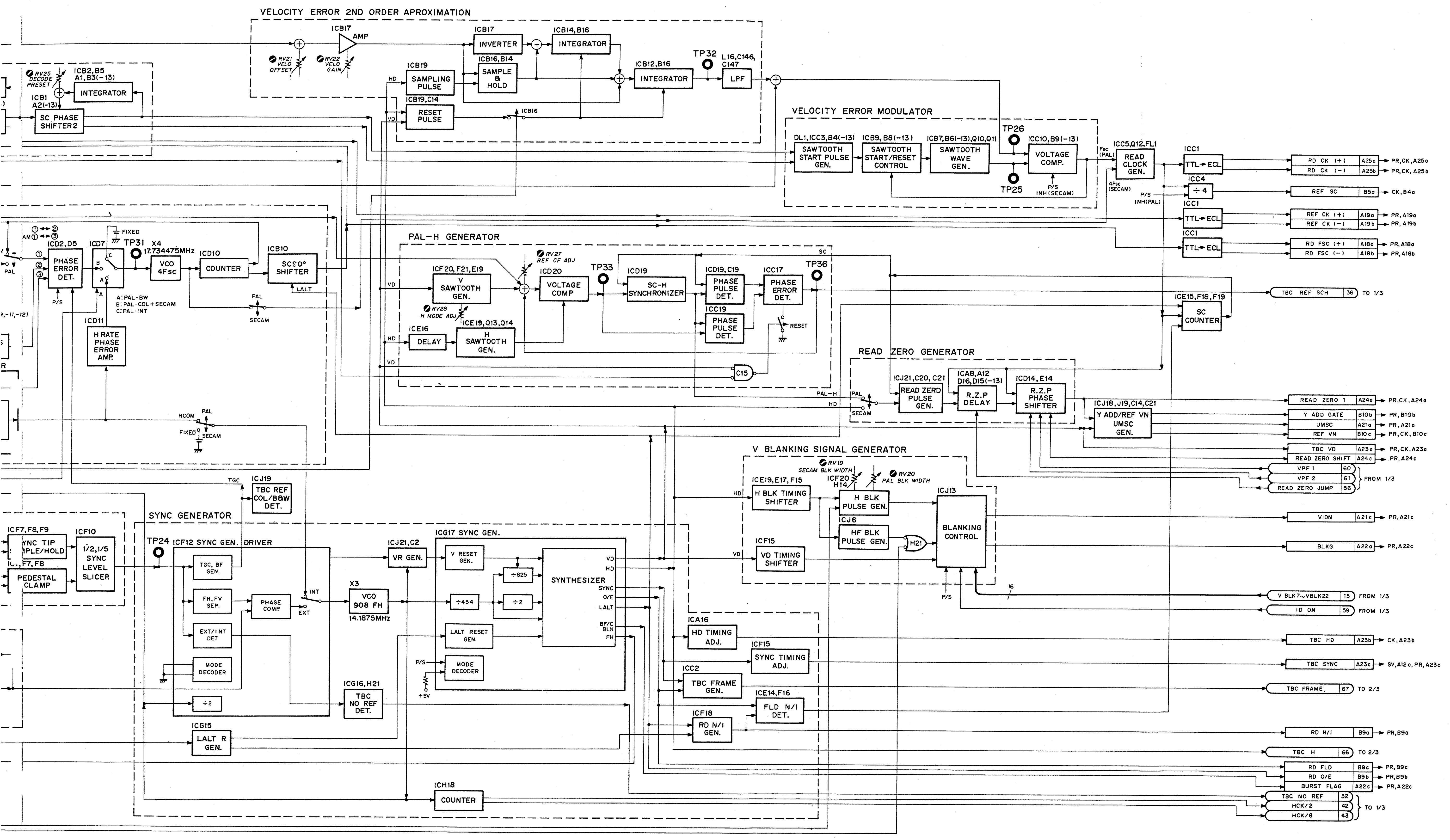

TO 3/3 64 I VIDEO
VS,321-10a A31b INPUT VID (SV)(X)
VS,321-14a A29b REF VIDEO (X)
TO 3/3 65 R VIDEO
FROM 1/3 6 SV REF INP/EXT
SERVO REF. SELECTOR
ICG1,G3
AMP
TP16
BURST SEPARATOR
L8,C84,R151
BPF
ICE1
ZERO CROSS DET.
SERVO REF SYNC SEPARATOR
L7,C75,C76
LPF
ICG6,Q4
ROUGH SYNC SEPARATOR
ICG7,G8,G9
SYNC TIP SAMPLE/HOLD
IC2,G7,G8
PEDESTAL CLAMP
ICG10
1/2,1/5 SYNC LEVEL SLICER
TP17
SV,A11a A10a HD IN
CONTINOUS SC GENERATOR
ICE2,E4
PHASE ERROR DET.
TP18
X2
VCO 17.734475MHz
ICE7
COUNTER
ICE9
1/2 REF PHASE SHIFTER
ICE13, E11
INTEGRATOR
RV12 BURST PHASE ADJ.
SYNC DRIVER
ICG13
SC
SYNC
TGC
EXT
VR
HD
H
ICJ18
SV REF COL/B&W DET
ICG16,H21
SV NO REF DET
SC-H RELATION DETECTOR
ICE8, H6
SC-H RELATION DETECTOR
ICH3,H4 Q5,6,7
T-V CONV.
ICH3,H4
SAMPLE & HOLD
ICH1
GAIN OFFSET ADJUST
TP21
RV14 SC-H OFFSET ADJ.
RV13 SC-H GAIN ADJ.
REF SCH 37 TO 1/3
SV NO REF 33 TO 1/3
ICH8,H12,G12
1,2 FIELD DETECTOR
ICK15
PAL 6LINE DET. SECAM 8LINE DET.
ICG11
1,3 FIELD DETECTOR
ICH7
SAMPLE PULSE GEN.
2 FRAME 62 TO 1/3
REF SYNC B6b SY,A11c
ICJ6, H9
BURST GATE
CF1, ICH11,G11,H6
PAL BURST SEP. SECAM DR SEP.
ICK15
PAL BURST DET. SECAM DR DET.
BURST DET 63 TO 1/3
FROM 1/3 49 3 FIELD RST
REF FRAME 41 TO 1/3
FROM 3/3 67 TBC FRAME
FROM 3/3 66 TBC H
FROM 1/3 47 SV CF
VS,320-5a A26b EX CF(X)
SV,B13b B13b REF V
SERVO REFERENCE SIGNAL GENERATOR
ICK8
SEL CF B14c SV,B14c
SEL FRAME B14b SV,B14b
REF H B12b SV,SY,PR,B12b
+5V
ICJ3
M.M.Q̄
ICJ2
M.M.Q̄
ICK5
D Q
ICK6
0 1 2 3
A B
+5V
EXT CFP 31 TO 1/3
FROM 1/3
4 CF PULSE SEL 1
3 CF PULSE SEL 2
5 SV/TBC
SV,B13c B13c REF 8
SV,B12a B12c REF 4
SV,B14a B14a REF 2
SV,B11a A21b COL FR PULSE
ICK4
D Q̄
ICK4
D Q̄
ICK5
D Q̄
ICJ3
M.M.Q
ICK7
0 1 2 3
A B
FRAME PULSE (X) A27b VS,320-6a
FRAM PULSE SEL 1 2 FROM 1/3
FRAM PULSE SEL 2 1 FROM 1/3

RD-7 BOARD (2/3)
SERVO REFERENCE BLOCK DIAGRAM
BVH-3000PS
BVH-3100PS

RD-7 BOARD (3/3)

TBC SYNC GENERATOR

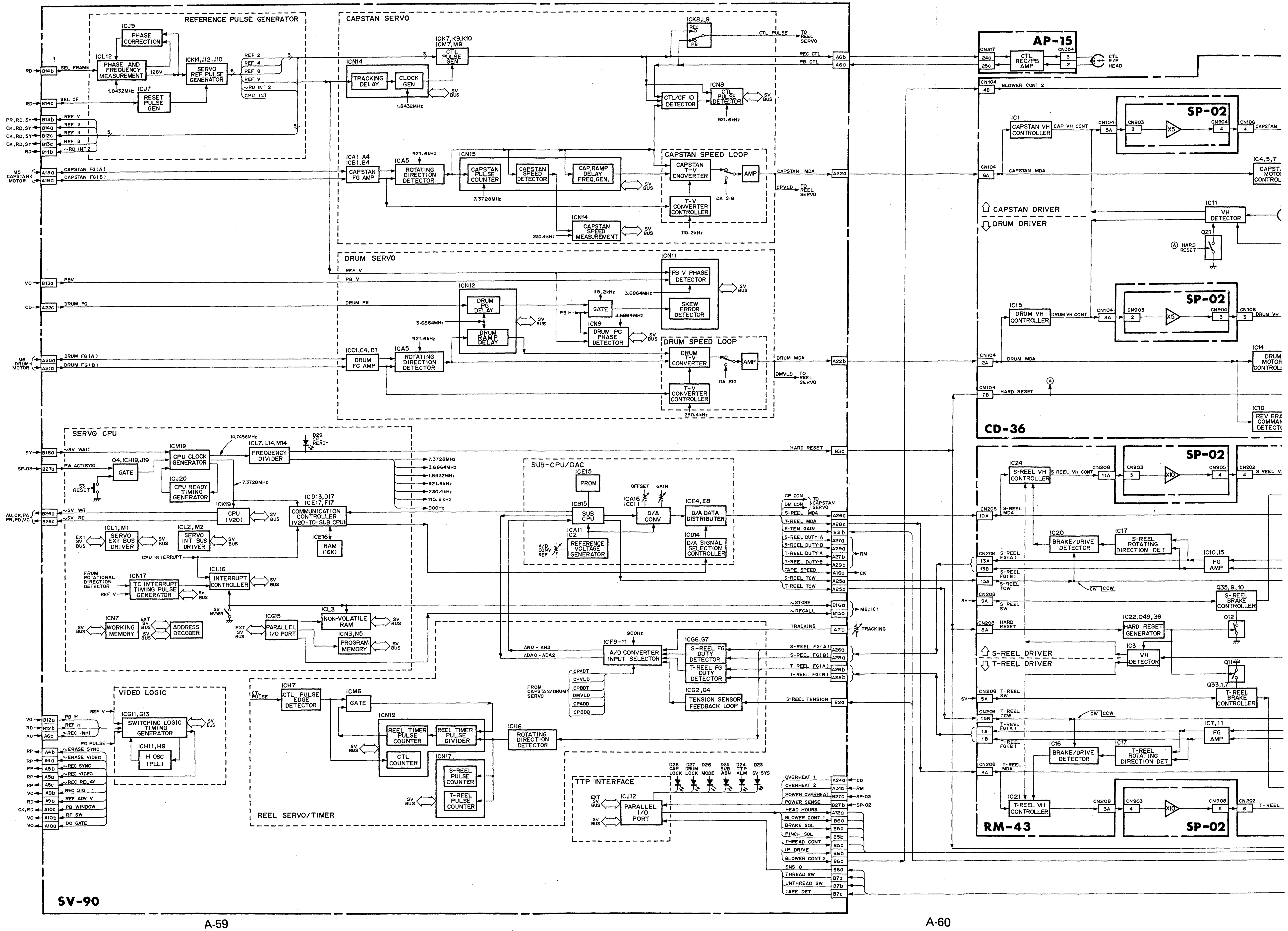

PR,A14c A14b VELO1(X)
FROM 1/3 10 RD TEST I
FROM 1/3 7 B-C PHASE L/R
PA,A1b B2c HUE CONT
FROM 1/3 48 ~CF RESET
FROM 1/3 13 DP VIDEO EN
PR,A15b A15b DP VIDEO(X)
ICB16
FROM 1/3 8 SC PHASE L/R
PA,A2a B2b SC CONT
FROM 2/3 64 I VIDEO
FROM 2/3 65 R VIDEO
FROM 1/3 14 TBC REF EXT/INP
FROM 1/3 11 VELO RESET
FROM 1/3 12 ~PAL BW
FROM 1/3 30 P/S
P/S
FROM 1/3 9 SYNC PHASE L/R
PA,A1a B2a SYNC CONT
SV,B13c B13c REF 8
FROM 1/3 55 BLK PLS SEL
FROM 1/3 58 HFBL EN
BURST-CHROMA PHASE CONTROL
ICB21
REMOTE
LOCAL
EN
RV23 B-C PHASE
RV24 ENCODE PRESET
ICB2,B5 A1,B3(-13)
INTEGRATOR
ICB1,A2(-13)
SC PHASE SHIFTER 1
RV25 DECODE PRESET
ICB2,B5 A1,B3(-13)
INTEGRATOR
ICB1 A2(-13)
SC PHASE SHIFTER 2
VELOCITY ERROR 2ND ORDER APROXIMATION
RV21 VELO OFFSET
RV22 VELO GAIN
ICB17 AMP
ICB17 INVERTER
ICB14,B16 INTEGRATOR
ICB19 SAMPLING PULSE
ICB16,B14 SAMPLE & HOLD
ICB19,C14 RESET PULSE
ICB16
HD
VD
ICB12,B16 INTEGRATOR
TP32
L16,C146, C147 LPF
SC GENERATOR
ICC13
REMOTE
LOCAL
RV 17 SC PHASE
ICC12 1/2 Fsc PHASE SHIFTER
SECAM
PAL
PAL ①↔②
SECAM①↔③
ICC13,E13 INTEGRATOR
RV18(FOR,-11,-12) SC PHASE
ICD2,D5 PHASE ERROR DET.
① ② ③
P/S
ICD7
FIXED
TP31
X4 17.734475MHz
VCO 4Fsc
A B C
A: PAL-BW
B: PAL-COL+SECAM
C: PAL-INT
ICD10 COUNTER
ICB10 SC0° SHIFTER
LALT
PAL
SECAM
ICD11 H RATE PHASE ERROR AMP.
TBC REF SELECTOR
INPUT
EXT
ICF1,F3 AMP
TP23
L13,C117 BPF
ICD1 ZERO CROSS DET.
ICG19 PHASE COMPARATOR
÷4
÷908
4Fsc→FH
PHASE COMP.
HCOM
FIXED
PAL
SECAM
PAL-H GENERATOR
RV27 REF CF ADJ
ICF20,F21,E19 V SAWTOOTH GEN.
RV28 H MODE ADJ
ICE16 DELAY
ICE19,Q13,Q14 H SAWTOOTH GEN.
ICD20 VOLTAGE COMP
TP33
ICD19 SC-H SYNCHRONIZER
ICD19,C19 PHASE PULSE DET.
ICC19 PHASE PULSE DET.
ICC17 PHA ERR DE
C15
V BLA
ICE19,E1
H BLK T SHIF
ICF15 VD TI SHIF
ICJ19 TBC REF COL/B&W DET.
TGC
SYNC SEPARATOR
L12,C118,C119 LPF
ICF6,Q8 ROUGH SYNC SEPARATOR
ICF7,F8,F9 SYNC TIP SAMPLE/HOLD
IC1,F7,F8 PEDESTAL CLAMP
ICF10 1/2,1/5 SYNC LEVEL SLICER
SYNC GENERATOR
TP24
ICF12 SYNC GEN. DRIVER
TGC, BF GEN.
FH, FV SEP.
EXT/INT DET
MODE DECODER
PHASE COMP.
÷2
INT
EXT
X3 VCO 908 FH 14.1875MHz
ICJ21,C2 VR GEN.
ICG17 SYNC GEN.
V RESET GEN.
÷625
÷454
÷2
SYNTHESIZER
VD HD SYNC O/E LALT BF/C BLK FH
LALT RESET GEN.
P/S
MODE DECODER
+5V
ICG16,H21 TBC NO REF DET.
ICG15 LALT R GEN.
ICH18 COUNTER
ICA16 HD TIMING ADJ.
ICF15 SYNC T AD
ICC2 TBC FRAME GEN.
ICE14,F FLD DE
ICF18 RD N/I GEN.
SYNC PHASE CONTOL
ICG20 E13 INTEGRATOR
REMOTE
LOCAL
RV15 SYNC PHASE
RV16 SYNC PHASE PRESET
ICG15 FH PULSE PHASE SHIFTER

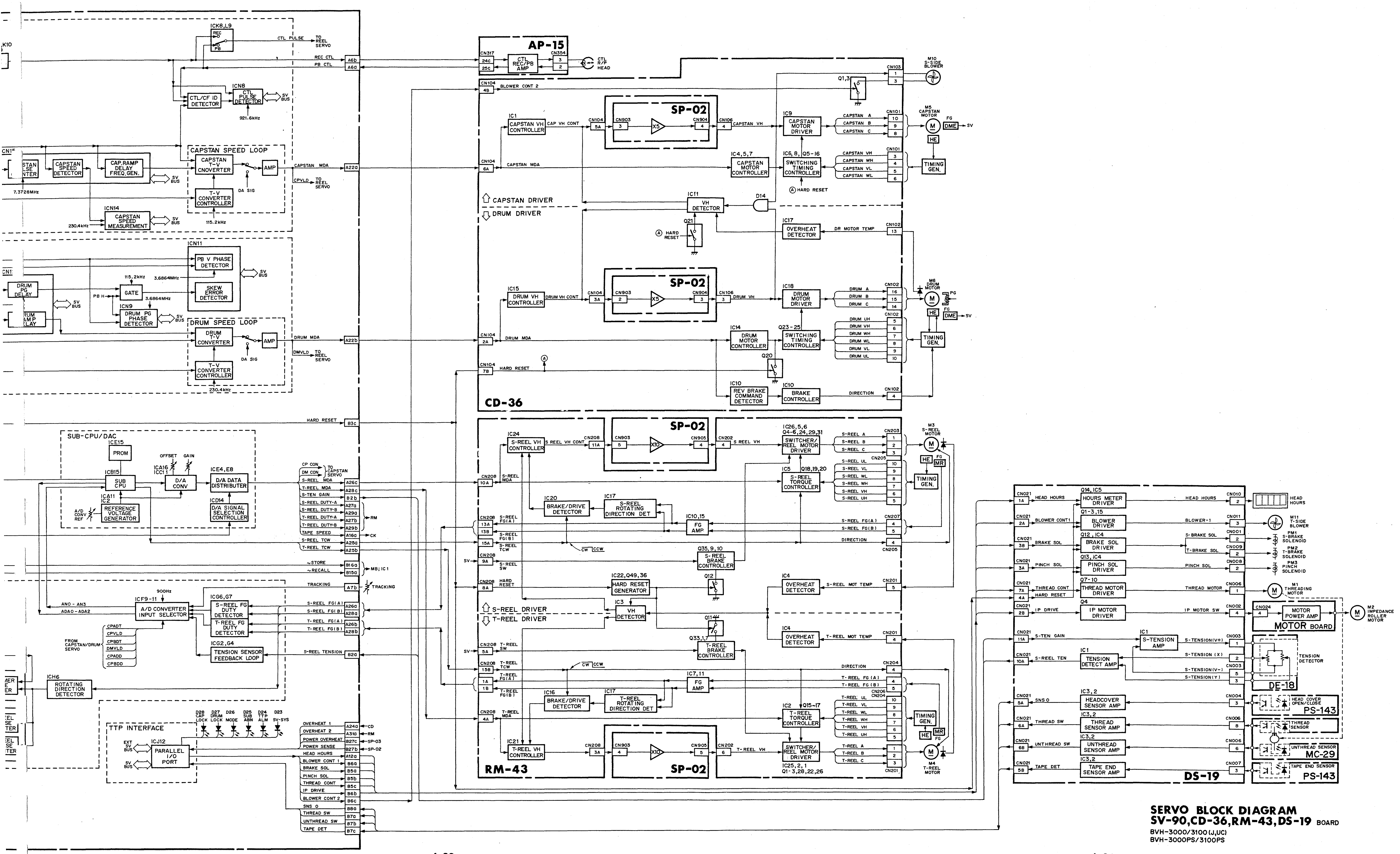

VELOCITY ERROR 2ND ORDER APROXIMATION
ICB17
AMP
RV21 VELO OFFSET
RV22 VELO GAIN
ICB17
INVERTER
ICB14,B16
INTEGRATOR
ICB16,B14
SAMPLE & HOLD
ICB19
SAMPLING PULSE
ICB19,C14
RESET PULSE
ICB16
ICB12,B16
INTEGRATOR
TP32
L16,C146, C147
LPF
RV25 DECODE PRESET
ICB2,B5 A1,B3(-13)
INTEGRATOR
ICB1 A2(-13)
SC PHASE SHIFTER2
VELOCITY ERROR MODULATOR
DL1,ICC3,B4(-13)
SAWTOOTH START PULSE GEN.
ICB9,B8(-13)
SAWTOOTH START/RESET CONTROL
ICB7,B6(-13),Q10,Q11
SAWTOOTH WAVE GEN.
TP26
TP25
ICC10,B9(-13)
VOLTAGE COMP.
P/S INH(SECAM)
Fsc (PAL)
4Fsc (SECAM)
ICC5,Q12,FL1
READ CLOCK GEN.
P/S INH(PAL)
ICC1
TTL→ECL
ICC4
÷4
ICC1
TTL→ECL
ICC1
TTL→ECL
RD CK (+) A25a → PR,CK,A25a
RD CK (-) A25b → PR,CK,A25b
REF SC B5a → CK,B4a
REF CK (+) A19a → PR,A19a
REF CK (-) A19b → PR,A19b
RD FSC (+) A18a → PR,A18a
RD FSC (-) A18b → PR,A18b
FIXED
AM ①↔② ①↔③
PAL
ICD2,D5
PHASE ERROR DET.
ICD7
TP31
X4 17.734475MHz
VCO 4Fsc
ICD10
COUNTER
ICB10
SC90° SHIFTER
LALT
A: PAL·BW
B: PAL·COL+SECAM
C: PAL·INT
P/S
ICD11
H RATE PHASE ERROR AMP.
PAL
SECAM
HCOM
FIXED
PAL-H GENERATOR
SC
RV27 REF CF ADJ
ICF20,F21,E19
V SAWTOOTH GEN.
RV28 H MODE ADJ
ICE16
DELAY
ICE19,Q13,Q14
H SAWTOOTH GEN.
ICD20
VOLTAGE COMP
TP33
ICD19
SC-H SYNCHRONIZER
ICD19,C19
PHASE PULSE DET.
ICC19
PHASE PULSE DET.
ICC17
PHASE ERROR DET.
TP36
RESET
IC15
ICE15,F18,F19
SC COUNTER
TBC REF SCH 36 TO 1/3
READ ZERO GENERATOR
PAL-H
HD
PAL
SECAM
ICJ21,C20,C21
READ ZERO PULSE GEN.
ICA8,A12 D16,D15(-13)
R.Z.P DELAY
ICD14,E14
R.Z.P PHASE SHIFTER
ICJ18,J19,C14,C21
Y ADD/REF VN UMSC GEN.
READ ZERO 1 A24a → PR,CK,A24a
Y ADD GATE B10b → PR,B10b
UMSC A21a → PR,A21a
REF VN B10c → PR,CK,B10c
TBC VD A23a → PR,CK,A23a
READ ZERO SHIFT A24c → PR,A24c
VPF 1 60
VPF 2 61
READ ZERO JUMP 56
FROM 1/3
V BLANKING SIGNAL GENERATOR
RV19 SECAM BLK WIDTH
RV20 PAL BLK WIDTH
ICE19,E17,F15
ICF20 H14
H BLK TIMING SHIFTER
H BLK PULSE GEN.
ICJ6
HF BLK PULSE GEN.
H21
ICJ13
BLANKING CONTROL
ICF15
VD TIMING SHIFTER
P/S
VIDN A21c → PR,A21c
BLKG A22a → PR,A22c
16
V BLK7~VBLK22 15 FROM 1/3
ID ON 59 FROM 1/3
TGC
ICJ19
TBC REF COL/B&W DET.
SYNC GENERATOR
ICF7,F8,F9
SYNC TIP SAMPLE/HOLD
ICF10
1/2,1/5 SYNC LEVEL SLICER
ICF7,F8
PEDESTAL CLAMP
TP24
ICF12 SYNC GEN. DRIVER
TGC, BF GEN.
FH, FV SEP.
PHASE COMP.
EXT/INT DET
MODE DECODER
÷2
INT
EXT
X3
VCO 908 FH
14.1875MHz
ICJ21,C2
VR GEN.
ICG17 SYNC GEN.
V RESET GEN.
÷625
÷454
÷2
LALT RESET GEN.
P/S
MODE DECODER
+5V
SYNTHESIZER
VD
HD
SYNC
O/E
LALT
BF/C BLK
FH
ICG16,H21
TBC NO REF DET.
ICG15
LALT R GEN.
ICH18
COUNTER
ICA16
HD TIMING ADJ.
ICF15
SYNC TIMING ADJ.
ICC2
TBC FRAME GEN.
ICE14,F16
FLD N/I DET.
ICF18
RD N/I GEN.
TBC HD A23b → CK,A23b
TBC SYNC A23c → SV,A12a,PR,A23c
TBC FRAME 67 TO 2/3
RD N/I B9a → PR,B9a
TBC H 66 TO 2/3
RD FLD B9c → PR,B9c
RD O/E B9b → PR,B9b
BURST FLAG A22c → PR,A22c
TBC NO REF 32
HCK/2 42
HCK/8 43
TO 1/3

RD-7 BOARD **(3/3)**
TBC SYNC GENERATOR BLOCK DIAGRAM
BVH-3000PS/3100PS

SERVO BLOCK DIAGRAM

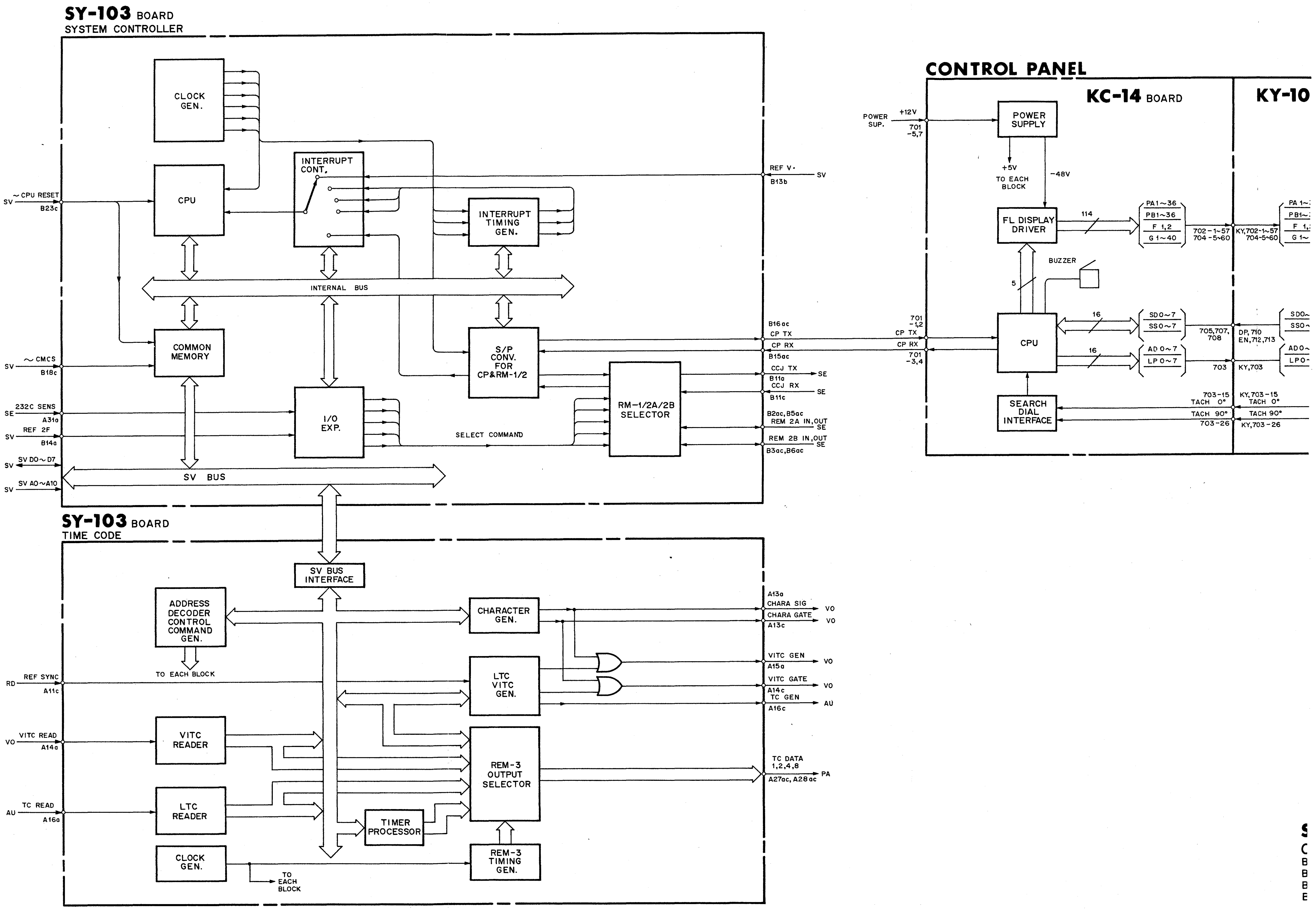
SV-90, CD-36, RM-43, DS-19 BOARD

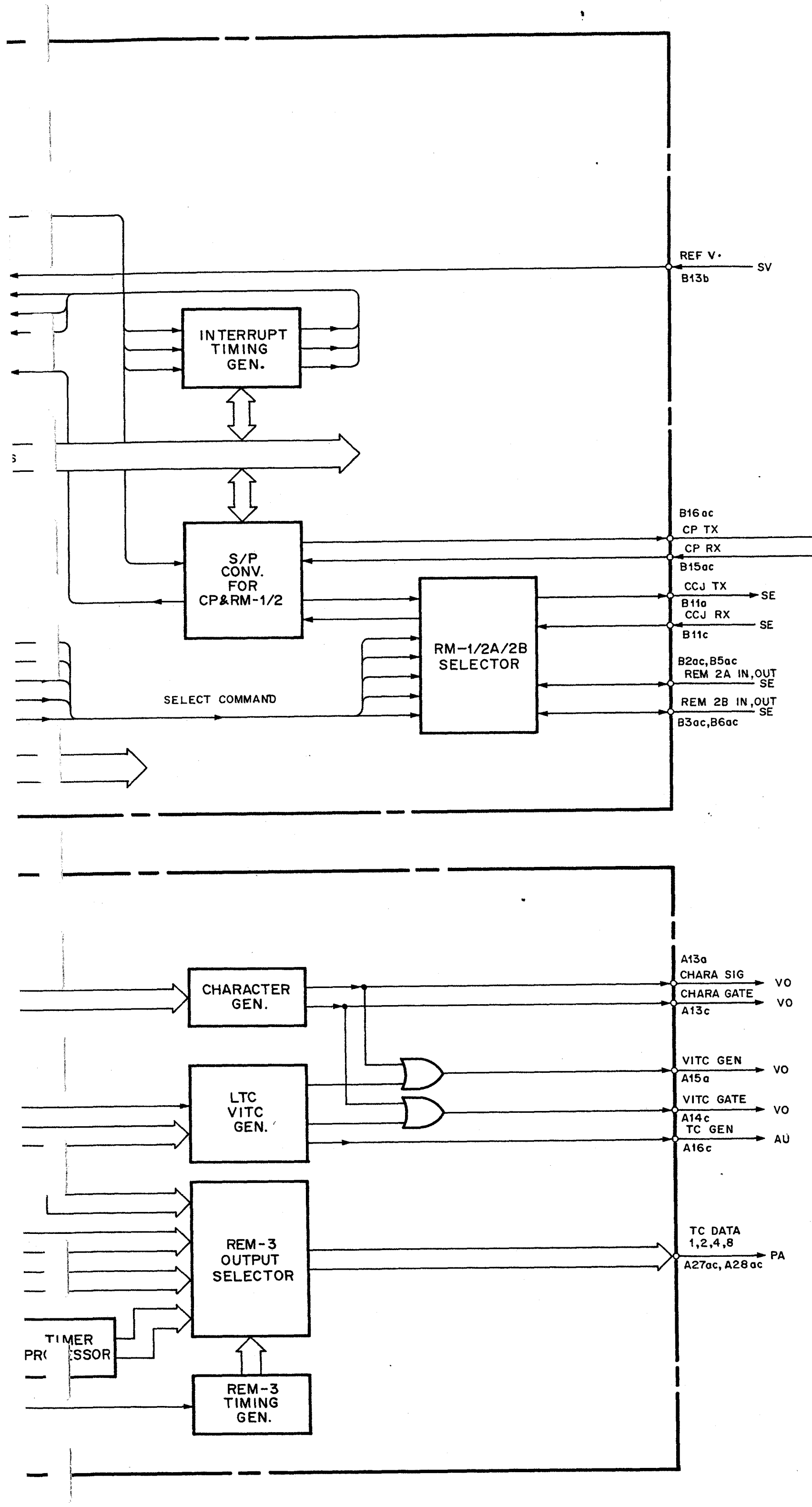

REFERENCE PULSE GENERATOR
ICJ9
PHASE CORRECTION
ICL12
PHASE AND FREQUENCY MEASUREMENT
1.8432MHz
ICJ7
RESET PULSE GEN
ICK14,J12,J10
SERVO REF PULSE GENERATOR
SEL FRAME
SEL CF
REF 2
REF 4
REF 8
REF V
~RD INT 2
CPU INT
CAPSTAN SERVO
ICN14
TRACKING DELAY
CLOCK GEN
ICK7,K9,K10 ICM7,M9
CTL PULSE GEN
ICK8,L9
REC
PB
CTL PULSE
TO REEL SERVO
REC CTL
PB CTL
ICN8
CTL/CF ID DETECTOR
CTL PULSE DETECTOR
921.6kHz
ICA1 A4 ICB1,B4
CAPSTAN FG AMP
ICA5
ROTATING DIRECTION DETECTOR
ICN15
CAPSTAN PULSE COUNTER
CAPSTAN SPEED DETECTOR
CAP.RAMP DELAY FREQ.GEN.
7.3728MHz
CAPSTAN SPEED LOOP
CAPSTAN T-V CNOVERTER
AMP
T-V CONVERTER CONTROLLER
DA SIG
CAPSTAN MDA
CPVLD
TO REEL SERVO
CAPSTAN SPEED MEASUREMENT
230.4kHz
115.2kHz
CAPSTAN FG(A)
CAPSTAN FG(B)
M5 CAPSTAN MOTOR
DRUM SERVO
REF V
PB V
ICN11
PB V PHASE DETECTOR
SKEW ERROR DETECTOR
ICN12
DRUM PG DELAY
DRUM RAMP DELAY
3.6864MHz
GATE
ICN9
DRUM PG PHASE DETECTOR
DRUM PG
ICC1,C4,D1
DRUM FG AMP
ROTATING DIRECTION DETECTOR
DRUM SPEED LOOP
DRUM T-V CONVERTER
T-V CONVERTER CONTROLLER
DRUM MDA
DMVLD
DRUM FG(A)
DRUM FG(B)
M6 DRUM MOTOR
SERVO CPU
~SV WAIT
PW ACT(SYS)
Q4,ICH19,J19
GATE
ICM19
CPU CLOCK GENERATOR
14.7456MHz
ICL7,L14,M14
FREQUENCY DIVIDER
D29 CPU READY
ICJ20
CPU READY TIMING GENERATOR
S3 RESET
ICK19
CPU (V20)
ICD13,D17 ICE17,F17
COMMUNICATION CONTROLLER (V20-TO-SUB CPU)
ICE16
RAM (16K)
ICL1,M1
SERVO EXT BUS DRIVER
ICL2,M2
SERVO INT BUS DRIVER
CPU INTERRUPT
ICL16
INTERRUPT CONTROLLER
ICN17
TC INTERRUPT TIMING PULSE GENERATOR
FROM ROTATIONAL DIRECTION DETECTOR
S2 NVWR
ICL3
NON-VOLATILE RAM
ICN3,N5
PROGRAM MEMORY
ICN7
WORKING MEMORY
ADDRESS DECODER
ICG15
PARALLEL I/O PORT
7.3728MHz
3.6864MHz
1.8432MHz
921.6kHz
230.4kHz
115.2kHz
900Hz
SUB-CPU/DAC
ICE15
PROM
ICB15
SUB CPU
ICA16 ICC11
D/A CONV
OFFSET
GAIN
ICE4,E8
D/A DATA DISTRIBUTER
ICA11 IC2
REFERENCE VOLTAGE GENERATOR
ICD14
D/A SIGNAL SELECTION CONTROLLER
HARD RESET
CP CON
DM CON
TO CAPSTAN SERVO
S-REEL MDA
T-REEL MDA
S-TEN GAIN
S-REEL DUTY-A
S-REEL DUTY-B
T-REEL DUTY-A
T-REEL DUTY-B
TAPE SPEED
S-REEL TCW
T-REEL TCW
~STORE
~RECALL
TRACKING
ICF9-11
A/D CONVERTER INPUT SELECTOR
ICG6,G7
S-REEL FG DUTY DETECTOR
T-REEL FG DUTY DETECTOR
ICG2,G4
TENSION SENSOR FEEDBACK LOOP
S-REEL TENSION
S-REEL FG(A)
S-REEL FG(B)
T-REEL FG(A)
T-REEL FG(B)
VIDEO LOGIC
ICG11,G13
SWITCHING LOGIC TIMING GENERATOR
ICH11,H9
H OSC (PLL)
PB H
REF H
~REC INHI
PG PULSE
~ERASE SYNC
~ERASE VIDEO
~REC SYNC
~REC VIDEO
~REC RELAY
REC SIG
REF ADV V
PB WINDOW
RF SW
DO GATE
ICH7
CTL PULSE EDGE DETECTOR
ICM6
GATE
ICN19
REEL TIMER PULSE COUNTER
REEL TIMER PULSE DIVIDER
CTL COUNTER
ICN17
S-REEL PULSE COUNTER
T-REEL PULSE COUNTER
ICH6
ROTATING DIRECTION DETECTOR
REEL SERVO/TIMER
TTP INTERFACE
ICJ12
PARALLEL I/O PORT
D28 CAP LOCK
D27 DRUM LOCK
D26 MODE
D25 SUB ABN
D24 TTP ALM
D23 SV-SYS
OVERHEAT 1
OVERHEAT 2
POWER OVERHEAT
POWER SENSE
HEAD HOURS
BLOWER CONT 1
BRAKE SOL
PINCH SOL
THREAD CONT
IP DRIVE
BLOWER CONT 2
SNS 0
THREAD SW
UNTHREAD SW
TAPE DET
SV-90
AP-15
CTL REC/PB AMP
CTL R/P HEAD
BLOWER CONT 2
IC1
CAPSTAN VH CONTROLLER
CAP VH CONT
SP-02
X5
CAPSTAN
IC4,5,7
CAPSTAN DRIVER
DRUM DRIVER
IC11
VH DETECTOR
Q21
HARD RESET
IC15
DRUM VH CONTROLLER
DRUM VH CONT
IC14
DRUM MOTOR CONTROL
IC10
REV BRAKE COMMAND DETECTOR
CD-36
IC24
S-REEL VH CONTROLLER
S REEL VH CONT
X10
IC20
BRAKE/DRIVE DETECTOR
IC17
S-REEL ROTATING DIRECTION DET
IC10,15
FG AMP
Q35,9,10
S-REEL BRAKE CONTROLLER
IC22,Q49,36
HARD RESET GENERATOR
Q12
IC3
VH DETECTOR
S-REEL DRIVER
T-REEL DRIVER
Q11
Q33,1,7
T-REEL BRAKE CONTROLLER
IC16
BRAKE/DRIVE DETECTOR
IC17
T-REEL ROTATING DIRECTION DET
IC7,11
FG AMP
IC21
T-REEL VH CONTROLLER
RM-43
SP-02

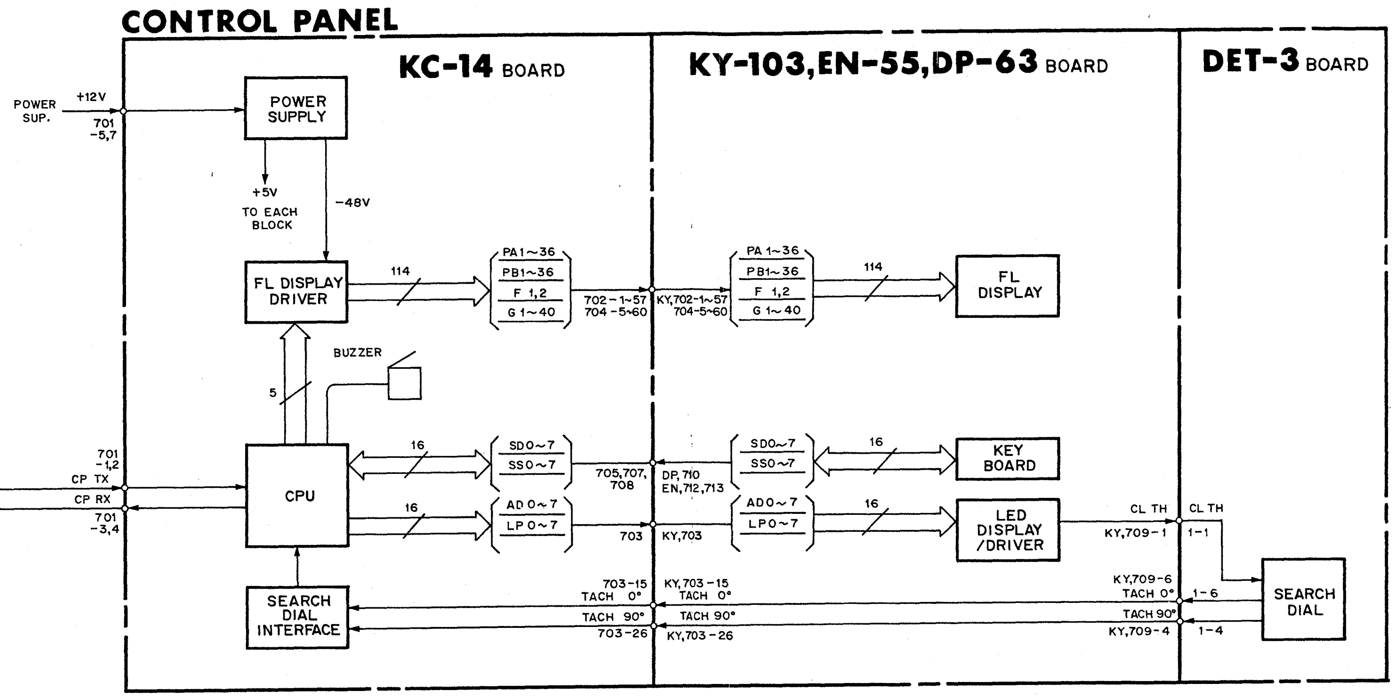

ICK8,L9
REC
PB
CTL PULSE
TO REEL SERVO
REC CTL
PB CTL
ICN8
CTL/CF ID DETECTOR
CTL PULSE DETECTOR
SV BUS
921.6kHz
CAPSTAN SPEED LOOP
CAPSTAN PULSE COUNTER
CAPSTAN SPEED DETECTOR
CAP.RAMP DELAY FREQ.GEN.
CAPSTAN T-V CNOVERTER
AMP
T-V CONVERTER CONTROLLER
DA SIG
CAPSTAN MDA
CPVLD
7.3728MHz
ICN14
CAPSTAN SPEED MEASUREMENT
230.4kHz
115.2kHz
ICN11
PB V PHASE DETECTOR
SKEW ERROR DETECTOR
DRUM PG DELAY
GATE
3.6864MHz
ICN9
DRUM PG PHASE DETECTOR
DRUM RAMP DELAY
DRUM SPEED LOOP
DRUM T-V CONVERTER
T-V CONVERTER CONTROLLER
DRUM MDA
DMVLD
230.4kHz
HARD RESET
SUB-CPU/DAC
ICE15
PROM
ICB15
SUB CPU
OFFSET
GAIN
ICA16
ICC11
D/A CONV
ICE4,E8
D/A DATA DISTRIBUTER
ICA11
IC2
A/D CONV REF
REFERENCE VOLTAGE GENERATOR
ICD14
D/A SIGNAL SELECTION CONTROLLER
CP CON
DM CON
TO CAPSTAN SERVO
S-REEL MDA
T-REEL MDA
S-TEN GAIN
S-REEL DUTY-A
S-REEL DUTY-B
T-REEL DUTY-A
T-REEL DUTY-B
TAPE SPEED
S-REEL TCW
T-REEL TCW
RM
CK
~STORE
~RECALL
MB; IC1
TRACKING
900Hz
ICF9-11
A/D CONVERTER INPUT SELECTOR
ANO - AN3
ADAO - ADA2
ICG6,G7
S-REEL FG DUTY DETECTOR
T-REEL FG DUTY DETECTOR
S-REEL FG(A)
S-REEL FG(B)
T-REEL FG(A)
T-REEL FG(B)
CPADT
CPVLD
CPBDT
DMVLD
CPADD
CPBDD
FROM CAPSTAN/DRUM SERVO
ICG2,G4
TENSION SENSOR FEEDBACK LOOP
S-REEL TENSION
ICH6
ROTATING DIRECTION DETECTOR
TTP INTERFACE
D28 CAP LOCK
D27 DRUM LOCK
D26 MODE
D25 SUB ABN
D24 TTP ALM
D23 SV-SYS
ICJ12
PARALLEL I/O PORT
EXT SV BUS
SV BUS
OVERHEAT 1
OVERHEAT 2
POWER OVERHEAT
POWER SENSE
HEAD HOURS
BLOWER CONT 1
BRAKE SOL
PINCH SOL
THREAD CONT
IP DRIVE
BLOWER CONT 2
SNS 0
THREAD SW
UNTHREAD SW
TAPE DET
CD
RM
SP-03
SP-02
AP-15
CN317
CTL REC/PB AMP
CN354
CTL R/P HEAD
CN104
BLOWER CONT 2
CN103
Q1,3
M10 S-SIDE BLOWER
IC1
CAPSTAN VH CONTROLLER
CAP VH CONT
SP-02
CN903
X5
CN904
CN106
CAPSTAN VH
IC9
CAPSTAN MOTOR DRIVER
CAPSTAN A
CAPSTAN B
CAPSTAN C
CN101
M5 CAPSTAN MOTOR
FG
DME
SV
HE
IC4,5,7
CAPSTAN MOTOR CONTROLLER
IC6,8, Q5-16
SWITCHING TIMING CONTROLLER
CAPSTAN VH
CAPSTAN WH
CAPSTAN VL
CAPSTAN WL
TIMING GEN.
HARD RESET
CAPSTAN DRIVER
DRUM DRIVER
IC11
VH DETECTOR
D14
Q21
IC17
OVERHEAT DETECTOR
DR MOTOR TEMP
CN102
IC15
DRUM VH CONTROLLER
DRUM VH CONT
DRUM VH
IC18
DRUM MOTOR DRIVER
DRUM A
DRUM B
DRUM C
M6 DRUM MOTOR
PG
IC14
DRUM MOTOR CONTROLLER
Q23-25
SWITCHING TIMING CONTROLLER
DRUM UH
DRUM VH
DRUM WH
DRUM WL
DRUM VL
DRUM UL
Q20
IC10
REV BRAKE COMMAND DETECTOR
BRAKE CONTROLLER
DIRECTION
CD-36
IC24
S-REEL VH CONTROLLER
S REEL VH CONT
CN208
X10
CN905
CN202
S REEL VH
IC26,5,6
Q4-6,24,29,31
SWITCHER/ REEL MOTOR DRIVER
S-REEL A
S-REEL B
S-REEL C
CN203
M3 S-REEL MOTOR
MR
IC5
Q18,19,20
S-REEL TORQUE CONTROLLER
S-REEL UL
S-REEL VL
S-REEL WL
S-REEL WH
S-REEL VH
S-REEL UH
CN205
IC20
BRAKE/DRIVE DETECTOR
S-REEL ROTATING DIRECTION DET
IC10,15
FG AMP
S-REEL FG(A)
S-REEL FG(B)
CN207
CW
CCW
Q35,9,10
S-REEL BRAKE CONTROLLER
IC22,Q49,36
HARD RESET GENERATOR
Q12
IC4
OVERHEAT DETECTOR
S-REEL MOT TEMP
CN201
S-REEL DRIVER
T-REEL DRIVER
IC3
VH DETECTOR
Q11
Q33,17
T-REEL BRAKE CONTROLLER
T-REEL MOT TEMP
CN204
IC7,11
FG AMP
T-REEL FG(A)
T-REEL FG(B)
IC16
BRAKE/DRIVE DETECTOR
T-REEL ROTATING DIRECTION DET
IC2
Q15-17
T-REEL TORQUE CONTROLLER
T-REEL UL
T-REEL VL
T-REEL WL
T-REEL WH
T-REEL VH
T-REEL UH
CN206
IC21
T-REEL VH CONTROLLER
T-REEL VH
IC25,2,1
Q1-3,28,22,26
T-REEL A
T-REEL B
T-REEL C
M4 T-REEL MOTOR
RM-43
CN021
HEAD HOURS
Q14, IC5
HOURS METER DRIVER
CN010
HEAD HOURS
BLOWER CONT1
Q1-3,15
BLOWER DRIVER
BLOWER-1
CN011
M11 T-SIDE BLOWER
BRAKE SOL
Q12, IC4
BRAKE SOL DRIVER
S-BRAKE SOL
T-BRAKE SOL
PM1 S-BRAKE SOLENOID
PM2 T-BRAKE SOLENOID
PINCH SOL
Q13, IC4
PINCH SOL DRIVER
PM3 PINCH SOLENOID
THREAD CONT
Q7-10
THREAD MOTOR DRIVER
THREAD MOTOR
M1 THREADING MOTOR
IP DRIVE
Q4
IP MOTOR DRIVER
IP MOTOR SW
CN024
MOTOR POWER AMP
MOTOR BOARD
M2 IMPEDANCE ROLLER MOTOR
S-TEN GAIN
S-TENSION AMP
S-TENSION(V+)
S-TENSION (X)
S-TENSION(V-)
S-TENSION(Y)
S-REEL TEN
TENSION DETECT AMP
TENSION DETECTOR
DE-18
SNS O
IC3,2
HEADCOVER SENSOR AMP
HEAD COVER OPEN/CLOSE
PS-143
THREAD SW
THREAD SENSOR AMP
THREAD SENSOR
UNTHREAD SW
UNTHREAD SENSOR AMP
UNTHREAD SENSOR
MC-29
TAPE DET
TAPE END SENSOR AMP
TAPE END SENSOR
PS-143
DS-19

SERVO BLOCK DIAGRAM
SV-90,CD-36,RM-43,DS-19 BOARD
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

SYSTEM CONTROL and CONTROL PANEL OVERALL BLOCK DIAGRAM


SY-103 BOARD
SYSTEM CONTROLLER
CLOCK GEN.
CPU
INTERRUPT CONT.
INTERRUPT TIMING GEN.
INTERNAL BUS
COMMON MEMORY
S/P CONV. FOR CP&RM-1/2
I/O EXP.
RM-1/2A/2B SELECTOR
SELECT COMMAND
SV BUS
SV ~CPU RESET B23c
SV ~CMCS B18c
SE 232C SENS A31a
SV REF 2F B14a
SV SV D0~D7
SV SV A0~A10
REF V- B13b SV
B16ac
CP TX
CP RX
B15ac
CCJ TX
B11a
CCJ RX
B11c
SE
SE
B2ac, B5ac
REM 2A IN, OUT
SE
REM 2B IN, OUT
SE
B3ac, B6ac
SY-103 BOARD
TIME CODE
SV BUS INTERFACE
ADDRESS DECODER CONTROL COMMAND GEN.
TO EACH BLOCK
CHARACTER GEN.
LTC VITC GEN.
REM-3 OUTPUT SELECTOR
VITC READER
LTC READER
TIMER PROCESSOR
CLOCK GEN.
REM-3 TIMING GEN.
TO EACH BLOCK
RD REF SYNC A11c
VO VITC READ A14a
AU TC READ A16a
A13a CHARA SIG VO
CHARA GATE VO
A13c
VITC GEN VO
A15a
VITC GATE VO
A14c
TC GEN AU
A16c
TC DATA 1,2,4,8 PA
A27ac, A28ac
CONTROL PANEL
KC-14 BOARD
KY-10
POWER SUP.
+12V
701 -5,7
POWER SUPPLY
+5V
TO EACH BLOCK
-48V
FL DISPLAY DRIVER
114
PA1~36
PB1~36
F 1,2
G 1~40
702-1~57
704-5~60
KY,702-1~57
704-5~60
BUZZER
5
CPU
16
SD0~7
SS0~7
705,707, 708
DP, 710
EN, 712, 713
16
AD0~7
LP0~7
703
KY,703
701 -1,2
CP TX
CP RX
701 -3,4
SEARCH DIAL INTERFACE
703-15
TACH 0°
TACH 90°
703-26
KY,703-15
TACH 0°
TACH 90°
KY,703-26


REF V
B13b
SV
INTERRUPT TIMING GEN.
S/P CONV. FOR CP&RM-1/2
RM-1/2A/2B SELECTOR
SELECT COMMAND
B16ac
CP TX
CP RX
B15ac
CCJ TX
B11a
SE
CCJ RX
B11c
SE
B2ac,B5ac
REM 2A IN,OUT
SE
REM 2B IN,OUT
SE
B3ac,B6ac
CHARACTER GEN.
LTC VITC GEN.
REM-3 OUTPUT SELECTOR
REM-3 TIMING GEN.
TIMER
A13a
CHARA SIG
VO
CHARA GATE
VO
A13c
VITC GEN
VO
A15a
VITC GATE
VO
A14c
TC GEN
AU
A16c
TC DATA 1,2,4,8
PA
A27ac, A28ac

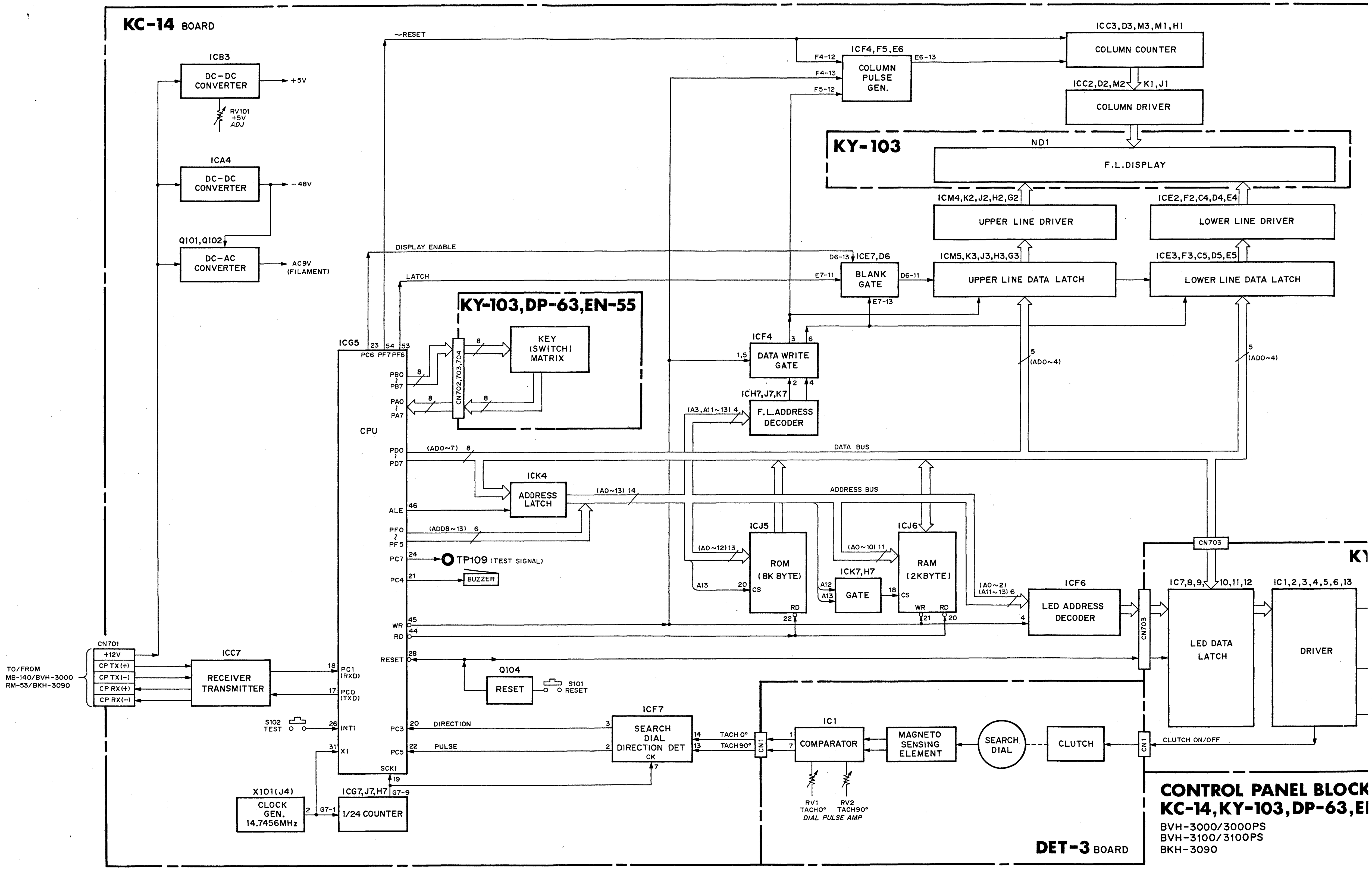

CONTROL PANEL
KC-14 BOARD
KY-103,EN-55,DP-63 BOARD
DET-3 BOARD
POWER SUP.
+12V
701 -5,7
POWER SUPPLY
+5V TO EACH BLOCK
-48V
FL DISPLAY DRIVER
114
PA1~36
PB1~36
F 1,2
G 1~40
702-1~57
704-5~60
KY,702-1~57
704-5~60
PA1~36
PB1~36
F 1,2
G 1~40
114
FL DISPLAY
BUZZER
5
CPU
16
SD0~7
SS0~7
705,707,708
DP,710
EN,712,713
SD0~7
SS0~7
16
KEY BOARD
16
AD0~7
LP0~7
703
KY,703
AD0~7
LP0~7
16
LED DISPLAY /DRIVER
CL TH
KY,709-1
CL TH
1-1
701 -1,2
CP TX
CP RX
701 -3,4
SEARCH DIAL INTERFACE
703-15
TACH 0°
TACH 90°
703-26
KY,703-15
TACH 0°
TACH 90°
KY,703-26
KY,709-6
TACH 0°
TACH 90°
KY,709-4
1-6
1-4
SEARCH DIAL

SYSTEM CONTROL & CONTROL PANEL

OVERALL BLOCK DIAGRAM
BVH-3000(J,U/C)
BVH-3000PS
BVH-3100(J,U/C)
BVH-3100PS

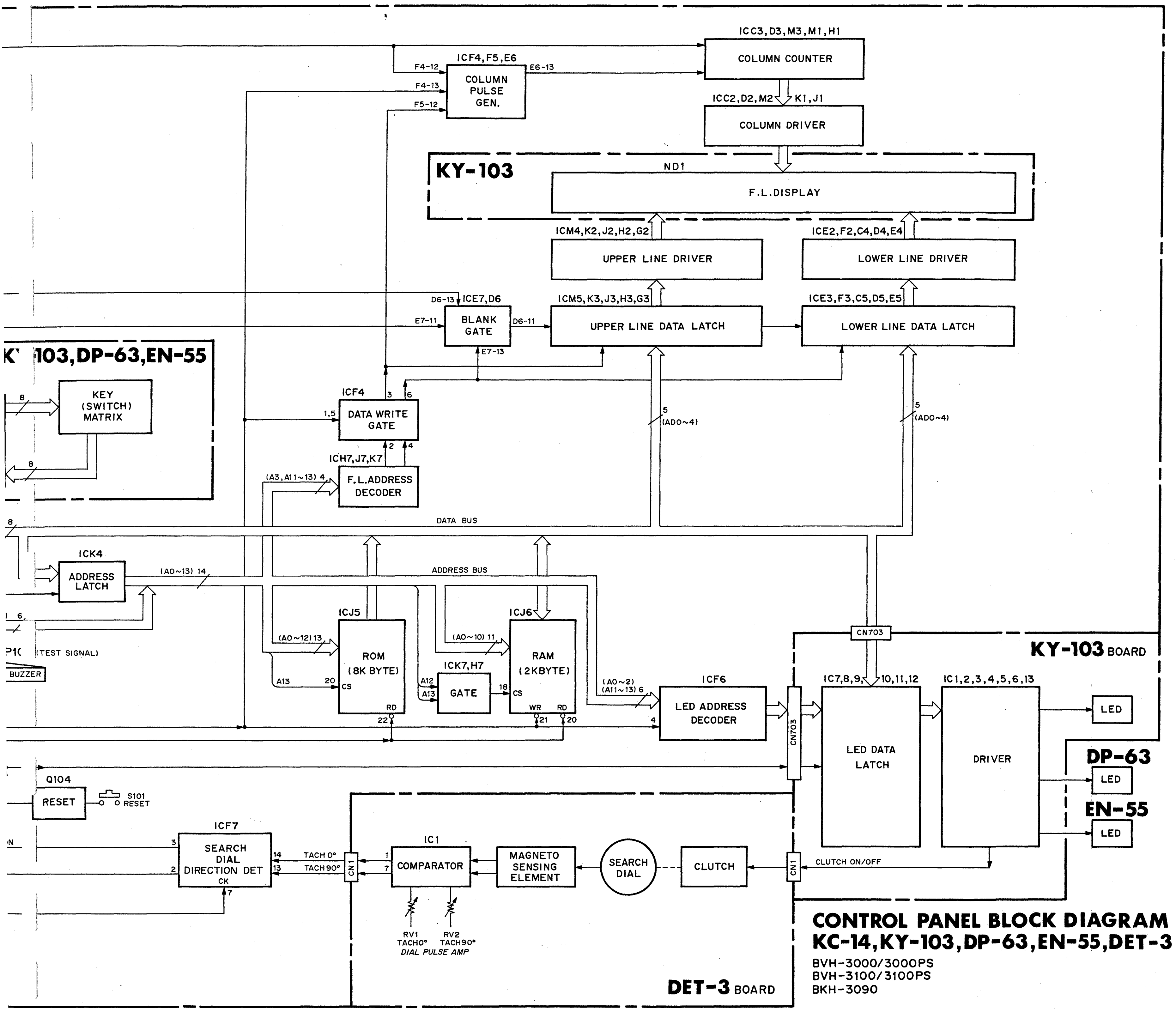
CONTROL PANEL BLOCK DIAGRAM

KC-14 BOARD
KY-103 BOARD


KC-14 BOARD
ICB3
DC-DC CONVERTER
+5V
RV101 +5V ADJ
ICA4
DC-DC CONVERTER
-48V
Q101,Q102
DC-AC CONVERTER
AC9V (FILAMENT)
~RESET
DISPLAY ENABLE
LATCH
ICG5
23 54 53
PC6 PF7 PF6
PB0 ~ PB7
PA0 ~ PA7
CPU
PD0 ~ PD7
(AD0~7) 8
ALE 46
PF0 ~ PF5
(ADD8~13) 6
PC7 24
TP109 (TEST SIGNAL)
PC4 21
BUZZER
WR 45
RD 44
RESET 28
PC1 (RXD) 18
PC0 (TXD) 17
INT1 26
X1 31
PC3 20 DIRECTION
PC5 22 PULSE
SCK1 19
KY-103,DP-63,EN-55
CN702,703,704
8
KEY (SWITCH) MATRIX
ICK4
ADDRESS LATCH
(A0~13) 14
CN701
+12V
CP TX(+)
CP TX(-)
CP RX(+)
CP RX(-)
TO/FROM MB-140/BVH-3000 RM-53/BKH-3090
ICC7
RECEIVER TRANSMITTER
S102 TEST
X101(J4)
CLOCK GEN. 14.7456MHz
2 G7-1
ICG7,J7,H7
G7-9
1/24 COUNTER
Q104
RESET
S101 RESET
ICF7
SEARCH DIAL DIRECTION DET
3 2 CK 7
14 TACH 0°
13 TACH 90°
CN1
IC1
COMPARATOR
MAGNETO SENSING ELEMENT
SEARCH DIAL
CLUTCH
CLUTCH ON/OFF
RV1 TACH0°
RV2 TACH90°
DIAL PULSE AMP
DET-3 BOARD
ICC3,D3,M3,M1,H1
COLUMN COUNTER
ICF4,F5,E6
F4-12
F4-13
F5-12
E6-13
COLUMN PULSE GEN.
ICC2,D2,M2
K1,J1
COLUMN DRIVER
KY-103
ND1
F.L.DISPLAY
ICM4,K2,J2,H2,G2
UPPER LINE DRIVER
ICE2,F2,C4,D4,E4
LOWER LINE DRIVER
D6-13
ICE7,D6
E7-11
BLANK GATE
D6-11
E7-13
ICM5,K3,J3,H3,G3
UPPER LINE DATA LATCH
ICE3,F3,C5,D5,E5
LOWER LINE DATA LATCH
ICF4
1,5
3 6
DATA WRITE GATE
2 4
ICH7,J7,K7
(A3,A11~13) 4
F.L.ADDRESS DECODER
5 (AD0~4)
5 (AD0~4)
DATA BUS
ADDRESS BUS
ICJ5
(A0~12) 13
ROM (8K BYTE)
A13 20 CS
RD 22
ICJ6
(A0~10) 11
RAM (2KBYTE)
ICK7,H7
A12
A13
GATE
18 CS
WR 21
RD 20
(A0~2) (A11~13) 6
ICF6
LED ADDRESS DECODER
4
CN703
CN703
IC7,8,9,10,11,12
LED DATA LATCH
IC1,2,3,4,5,6,13
DRIVER
K

CONTROL PANEL BLOCK
KC-14,KY-103,DP-63,E

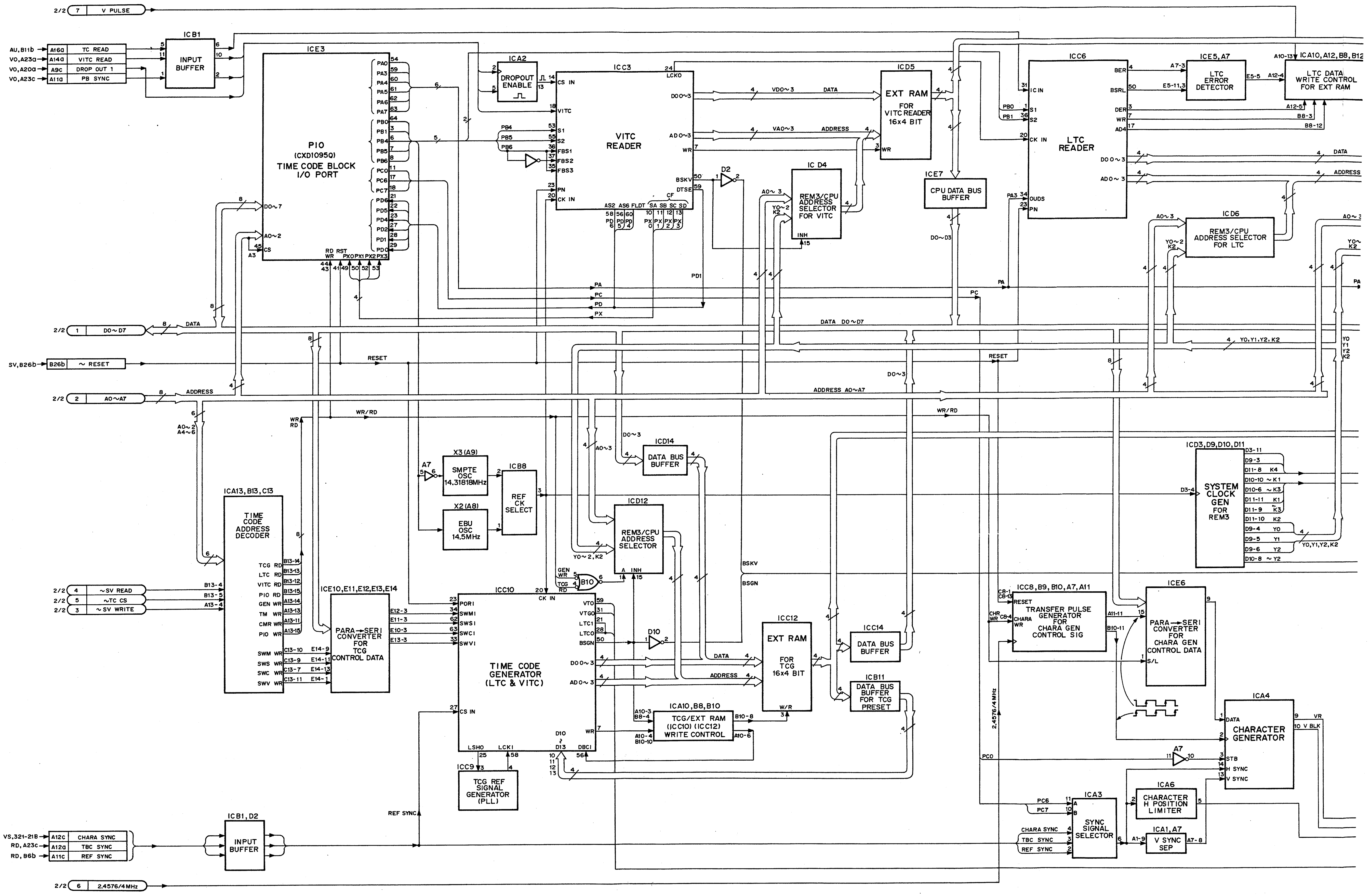
BVH-3000/3000PS
BVH-3100/3100PS
BKH-3090


ICC3,D3,M3,M1,H1
COLUMN COUNTER
ICF4,F5,E6
F4-12
F4-13
F5-12
E6-13
COLUMN PULSE GEN.
ICC2,D2,M2
K1,J1
COLUMN DRIVER
KY-103
ND1
F.L.DISPLAY
ICM4,K2,J2,H2,G2
ICE2,F2,C4,D4,E4
UPPER LINE DRIVER
LOWER LINE DRIVER
D6-13
ICE7,D6
E7-11
BLANK GATE
D6-11
E7-13
ICM5,K3,J3,H3,G3
ICE3,F3,C5,D5,E5
UPPER LINE DATA LATCH
LOWER LINE DATA LATCH
103,DP-63,EN-55
KEY (SWITCH) MATRIX
8
8
ICF4
1,5
DATA WRITE GATE
3
6
2
4
ICH7,J7,K7
(A3,A11~13) 4
F.L.ADDRESS DECODER
5
(AD0~4)
5
(AD0~4)
8
DATA BUS
ICK4
ADDRESS LATCH
(A0~13) 14
ADDRESS BUS
6
P1
(TEST SIGNAL)
BUZZER
ICJ5
(A0~12) 13
A13
20
CS
ROM (8K BYTE)
RD
22
ICJ6
(A0~10) 11
ICK7,H7
A12
A13
GATE
18
CS
RAM (2KBYTE)
WR
RD
21
20
(A0~2)
(A11~13) 6
4
ICF6
LED ADDRESS DECODER
CN703
CN703
KY-103 BOARD
IC7,8,9,10,11,12
LED DATA LATCH
IC1,2,3,4,5,6,13
DRIVER
LED
DP-63
LED
EN-55
LED
Q104
RESET
S101 RESET
ICF7
3
2
SEARCH DIAL DIRECTION DET
CK
7
14
13
TACH 0°
TACH 90°
CN1
1
7
IC1
COMPARATOR
MAGNETO SENSING ELEMENT
SEARCH DIAL
CLUTCH
CN1
CLUTCH ON/OFF
RV1 TACHO°
RV2 TACH90°
DIAL PULSE AMP
DET-3 BOARD

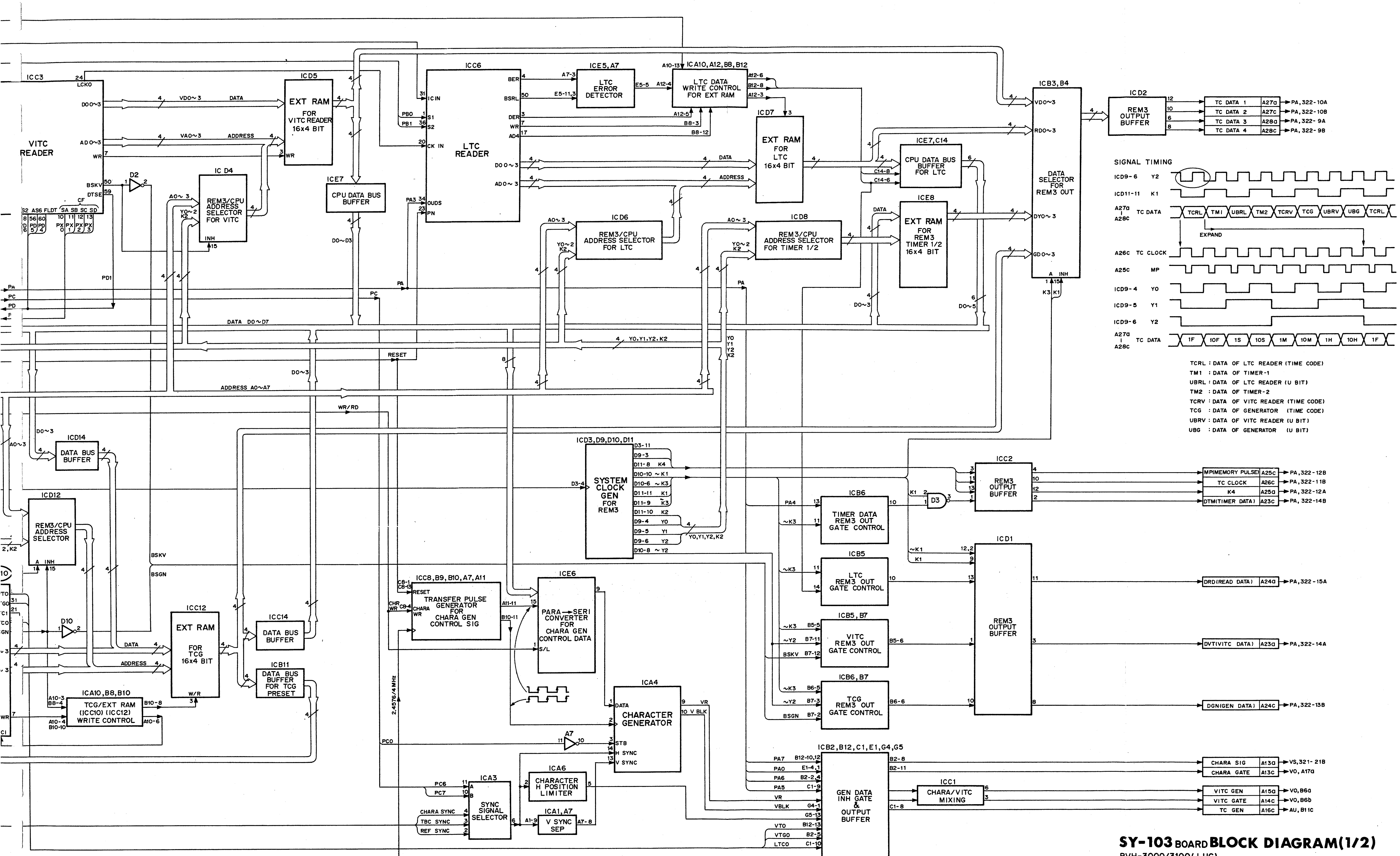
CONTROL PANEL BLOCK DIAGRAM
KC-14,KY-103,DP-63,EN-55,DET-3 BOARD
BVH-3000/3000PS
BVH-3100/3100PS
BKH-3090

SY-103 BOARD (1/2)

TIME CODE READER GENERATOR



V PULSE
TC READ
VITC READ
DROP OUT 1
PB SYNC
ICB1
INPUT BUFFER
ICE3
PIO (CXD1095Q) TIME CODE BLOCK I/O PORT
ICA2
DROPOUT ENABLE
ICC3
VITC READER
ICD5
EXT RAM FOR VITC READER 16x4 BIT
IC D4
REM3/CPU ADDRESS SELECTOR FOR VITC
ICE7
CPU DATA BUS BUFFER
ICC6
LTC READER
ICE5,A7
LTC ERROR DETECTOR
ICA10,A12,B8,B12
LTC DATA WRITE CONTROL FOR EXT RAM
ICD6
REM3/CPU ADDRESS SELECTOR FOR LTC
D0~D7
~ RESET
A0~A7
DATA D0~D7
ADDRESS A0~A7
RESET
WR/RD
ICD14
DATA BUS BUFFER
X3(A9)
SMPTE OSC 14,31818MHz
X2(A8)
EBU OSC 14,5MHz
ICB8
REF CK SELECT
ICD12
REM3/CPU ADDRESS SELECTOR
ICD3,D9,D10,D11
SYSTEM CLOCK GEN FOR REM3
ICA13,B13,C13
TIME CODE ADDRESS DECODER
~SV READ
~TC CS
~SV WRITE
ICE10,E11,E12,E13,E14
PARA→SERI CONVERTER FOR TCG CONTROL DATA
ICC10
TIME CODE GENERATOR (LTC & VITC)
ICC12
EXT RAM FOR TCG 16x4 BIT
ICC14
DATA BUS BUFFER
ICB11
DATA BUS BUFFER FOR TCG PRESET
ICA10,B8,B10
TCG/EXT RAM (ICC10) (ICC12) WRITE CONTROL
ICC9
TCG REF SIGNAL GENERATOR (PLL)
ICC8,B9,B10,A7,A11
TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIG
ICE6
PARA→SERI CONVERTER FOR CHARA GEN CONTROL DATA
ICA4
CHARACTER GENERATOR
ICA6
CHARACTER H POSITION LIMITER
ICA3
SYNC SIGNAL SELECTOR
ICA1,A7
V SYNC SEP
ICB1,D2
INPUT BUFFER
CHARA SYNC
TBC SYNC
REF SYNC
2.4576/4MHz

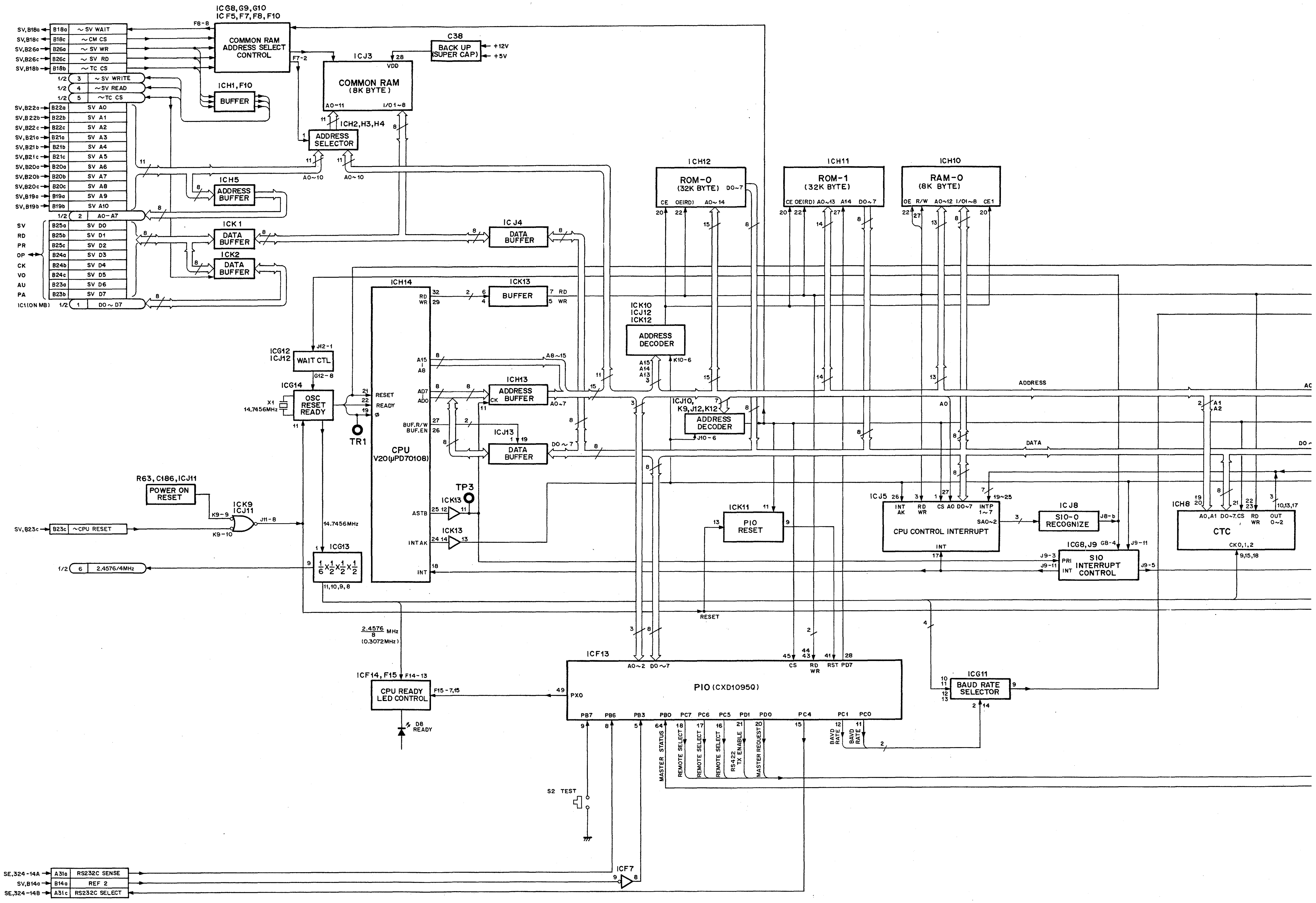

ICC3
VITC READER
ICD5
EXT RAM FOR VITC READER 16x4 BIT
IC D4
REM3/CPU ADDRESS SELECTOR FOR VITC
ICE7
CPU DATA BUS BUFFER
ICC6
LTC READER
ICE5, A7
LTC ERROR DETECTOR
ICA10, A12, B8, B12
LTC DATA WRITE CONTROL FOR EXT RAM
ICD7
EXT RAM FOR LTC 16x4 BIT
ICE7, C14
CPU DATA BUS BUFFER FOR LTC
ICE8
EXT RAM FOR REM3 TIMER 1/2 16x4 BIT
ICD6
REM3/CPU ADDRESS SELECTOR FOR LTC
ICD8
REM3/CPU ADDRESS SELECTOR FOR TIMER 1/2
ICB3, B4
DATA SELECTOR FOR REM3 OUT
ICD2
REM3 OUTPUT BUFFER
TC DATA 1 A27a PA, 322-10A
TC DATA 2 A27c PA, 322-10B
TC DATA 3 A28a PA, 322-9A
TC DATA 4 A28c PA, 322-9B
SIGNAL TIMING
ICD9-6 Y2
ICD11-11 K1
A27a I A28C TC DATA
TCRL TM1 UBRL TM2 TCRV TCG UBRV UBG TCRL
EXPAND
A26C TC CLOCK
A25C MP
ICD9-4 Y0
ICD9-5 Y1
ICD9-6 Y2
A27a I A28C TC DATA
1F 10F 1S 10S 1M 10M 1H 10H 1F
DATA D0~D7
ADDRESS A0~A7
WR/RD
RESET
ICD14
DATA BUS BUFFER
ICD12
REM3/CPU ADDRESS SELECTOR
ICC12
EXT RAM FOR TCG 16x4 BIT
ICC14
DATA BUS BUFFER
ICB11
DATA BUS BUFFER FOR TCG PRESET
ICA10, B8, B10
TCG/EXT RAM (ICC10) (ICC12) WRITE CONTROL
ICD3, D9, D10, D11
SYSTEM CLOCK GEN FOR REM3
ICC8, B9, B10, A7, A11
TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIG
ICE6
PARA→SERI CONVERTER FOR CHARA GEN CONTROL DATA
ICA4
CHARACTER GENERATOR
2.4576/4 MHz
A7
ICA3
SYNC SIGNAL SELECTOR
ICA6
CHARACTER H POSITION LIMITER
ICA1, A7
V SYNC SEP
CHARA SYNC
TBC SYNC
REF SYNC
ICC2
REM3 OUTPUT BUFFER
D3
MP(MEMORY PULSE) A25c PA, 322-12B
TC CLOCK A26c PA, 322-11B
K4 A25a PA, 322-12A
DTM(TIMER DATA) A23c PA, 322-14B
ICB6
TIMER DATA REM3 OUT GATE CONTROL
ICB5
LTC REM3 OUT GATE CONTROL
ICB5, B7
VITC REM3 OUT GATE CONTROL
ICB6, B7
TCG REM3 OUT GATE CONTROL
ICD1
REM3 OUTPUT BUFFER
DRD(READ DATA) A24a PA, 322-15A
DVT(VITC DATA) A23a PA, 322-14A
DGN(GEN DATA) A24c PA, 322-13B
ICB2, B12, C1, E1, G4, G5
GEN DATA INH GATE & OUTPUT BUFFER
ICC1
CHARA/VITC MIXING
CHARA SIG A13a VS, 321-21B
CHARA GATE A13c VO, A17a
VITC GEN A15a VO, B6a
VITC GATE A14c VO, B6b
TC GEN A16c AU, B11c

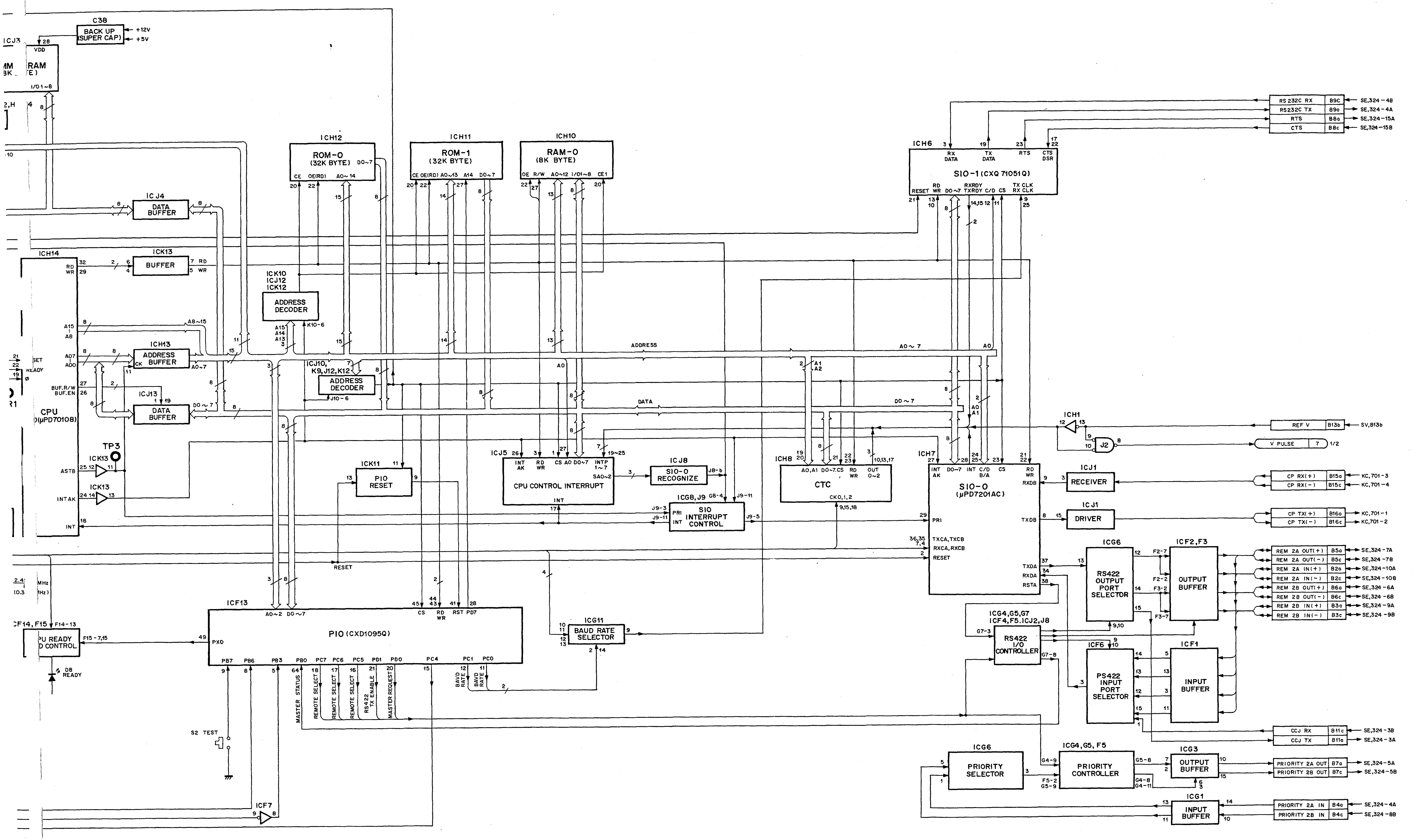
TCRL : DATA OF LTC READER (TIME CODE)
TM1 : DATA OF TIMER-1
UBRL : DATA OF LTC READER (U BIT)
TM2 : DATA OF TIMER-2
TCRV : DATA OF VITC READER (TIME CODE)
TCG : DATA OF GENERATOR (TIME CODE)
UBRV : DATA OF VITC READER (U BIT)
UBG : DATA OF GENERATOR (U BIT)

SY-103 BOARD BLOCK DIAGRAM(1/2)
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

SY-103 BOARD (2/2)

System Control


ICG8,G9,G10
IC F5,F7,F8,F10
COMMON RAM ADDRESS SELECT CONTROL
C38
BACK UP (SUPER CAP)
+12V
+5V
ICJ3
COMMON RAM (8K BYTE)
ICH1,F10
BUFFER
ICH2,H3,H4
ADDRESS SELECTOR
ICH5
ADDRESS BUFFER
ICK1
DATA BUFFER
ICK2
DATA BUFFER
ICJ4
DATA BUFFER
ICH14
CPU V20(μPD70108)
ICK13
BUFFER
ICH13
ADDRESS BUFFER
ICJ13
DATA BUFFER
ICG12 ICJ12
WAIT CTL
ICG14
OSC RESET READY
X1 14.7456MHz
TR1
TP3
ICK13
R63,C186,ICJ11
POWER ON RESET
ICK9 ICJ11
ICG13
14.7456MHz
2.4576/8 MHz (0.3072MHz)
ICF14,F15
CPU READY LED CONTROL
D8 READY
ICH12
ROM-0 (32K BYTE)
ICH11
ROM-1 (32K BYTE)
ICH10
RAM-0 (8K BYTE)
ICK10 ICJ12 ICK12
ADDRESS DECODER
ICJ10, K9,J12,K12
ADDRESS DECODER
ADDRESS
DATA
ICK11
PIO RESET
ICJ5
CPU CONTROL INTERRUPT
ICJ8
SIO-0 RECOGNIZE
ICG8,J9
SIO INTERRUPT CONTROL
ICH8
CTC
ICF13
PIO (CXD1095Q)
ICG11
BAUD RATE SELECTOR
RESET
S2 TEST
ICF7
MASTER STATUS
REMOTE SELECT
RS422 TX ENABLE
MASTER REQUEST
BAUD RATE
SV,B18a B18a ~SV WAIT
SV,B18c B18c ~CM CS
SV,B26a B26a ~SV WR
SV,B26c B26c ~SV RD
SV,B18b B18b ~TC CS
1/2 3 ~SV WRITE
1/2 4 ~SV READ
1/2 5 ~TC CS
SV A0 ~ SV A10
1/2 2 A0~A7
SV D0 ~ SV D7
IC1(ON MB) 1/2 1 D0~D7
SV,B23c B23c ~CPU RESET
1/2 6 2.4576/4MHz
SE,324-14A A31a RS232C SENSE
SV,B14a B14a REF 2
SE,324-14B A31c RS232C SELECT

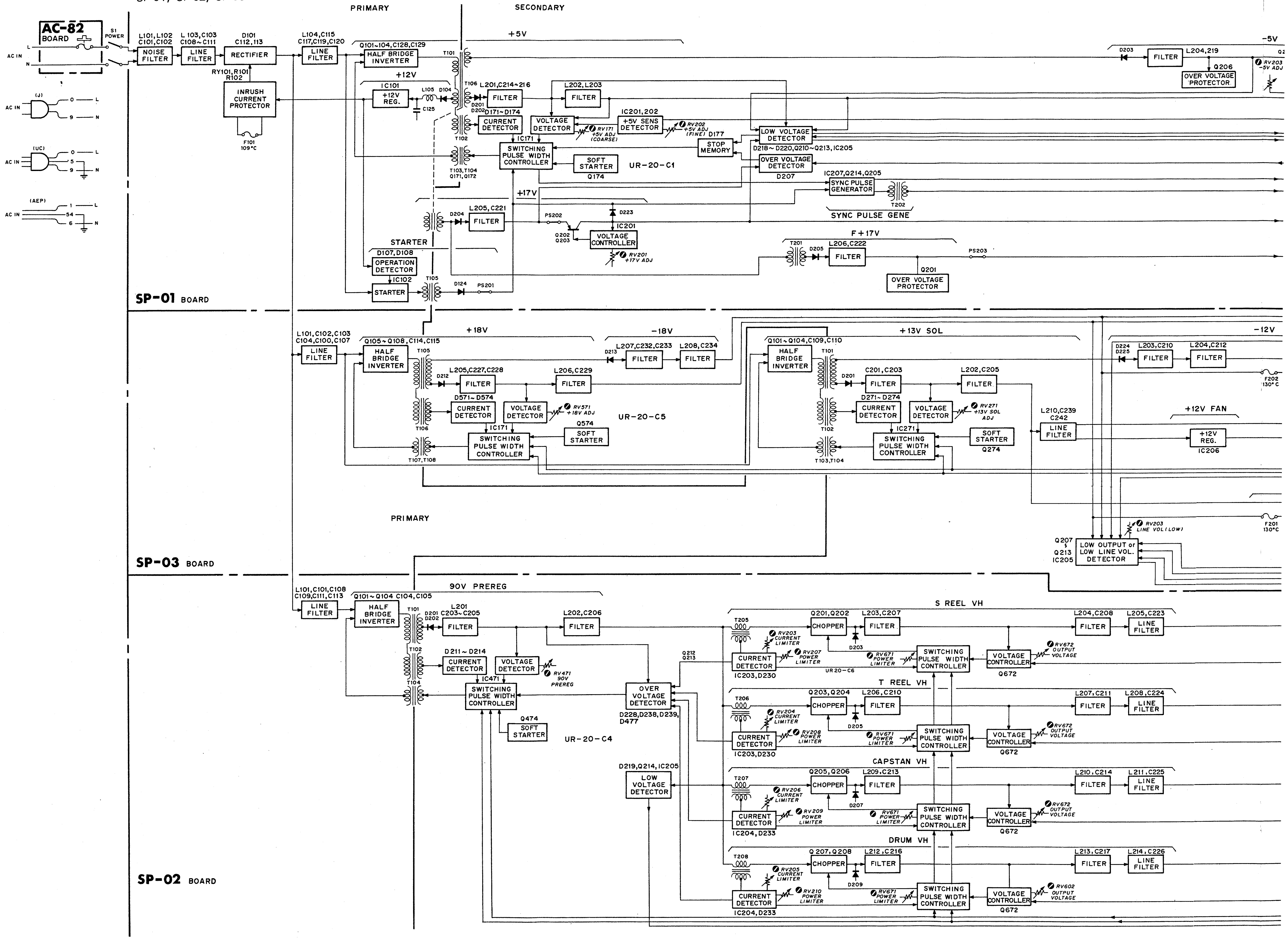

C38
BACK UP (SUPER CAP)
+12V
+5V
ICJ3
VDD
RAM
I/O1~8
ICH12
ROM-0 (32K BYTE)
CE OE(RD) A0~14 D0~7
ICH11
ROM-1 (32K BYTE)
CE OE(RD) A0~13 A14 D0~7
ICH10
RAM-0 (8K BYTE)
OE R/W A0~12 I/O1~8 CE1
ICJ4
DATA BUFFER
ICK13
BUFFER
RD
WR
ICH14
CPU (μPD70108)
A15~A8
A07~A00
BUF.R/W
BUF.EN
ASTB
INTAK
INT
ICK10 ICJ12 ICK12
ADDRESS DECODER
K10-6
ICH13
ADDRESS BUFFER
A0~7
ICJ13
DATA BUFFER
D0~7
ICJ10, K9, J12, K12
ADDRESS DECODER
J10-6
TP3
ICK13
ADDRESS
A0~7
DATA
D0~7
ICH6
SIO-1 (CXQ71051Q)
RX DATA
TX DATA
RTS
CTS DSR
RESET WR RD D0~7 RXRDY TXRDY C/D CS TX CLK RX CLK
RS232C RX B9C SE,324-4B
RS232C TX B9a SE,324-4A
RTS B8a SE,324-15A
CTS B8c SE,324-15B
ICK11
PIO RESET
ICJ5
CPU CONTROL INTERRUPT
INT AK RD WR CS A0 D0~7 INTP 1~7
SA0~2
INT
ICJ8
SIO-0 RECOGNIZE
J8-b
ICG8, J9
SIO INTERRUPT CONTROL
PRI INT
J9-3
J9-11
J9-5
G8-4
J9-11
ICH8
CTC
A0,A1 D0~7 CS RD WR OUT 0~2
CK0,1,2
9,15,18
ICH7
SIO-0 (μPD7201AC)
INT AK D0~7 INT C/D B/A CS RD WR
RXDB
TXDB
PRI
TXCA,TXCB
RXCA,RXCB
RESET
TXDA
RXDA
RSTA
ICH1
J2
REF V B13a SV,B13b
V PULSE 7 1/2
ICJ1
RECEIVER
CP RX(+) B15a KC,701-3
CP RX(-) B15c KC,701-4
ICJ1
DRIVER
CP TX(+) B16a KC,701-1
CP TX(-) B16c KC,701-2
ICG6
RS422 OUTPUT PORT SELECTOR
ICF2, F3
OUTPUT BUFFER
F2-7
F2-2
F3-2
F3-7
REM 2A OUT(+) B5a SE,324-7A
REM 2A OUT(-) B5c SE,324-7B
REM 2A IN(+) B2a SE,324-10A
REM 2A IN(-) B2c SE,324-10B
REM 2B OUT(+) B6a SE,324-6A
REM 2B OUT(-) B6c SE,324-6B
REM 2B IN(+) B3a SE,324-9A
REM 2B IN(-) B3c SE,324-9B
ICG4, G5, G7
ICF4, F5, ICJ2, J8
RS422 I/O CONTROLLER
G7-3
G7-8
ICF6
PS422 INPUT PORT SELECTOR
ICF1
INPUT BUFFER
CCJ RX B11c SE,324-3B
CCJ TX B11a SE,324-3A
ICF13
PIO (CXD1095Q)
A0~2 D0~7 CS RD WR RST PD7
PX0
PB7 PB6 PB3 PB0 PC7 PC6 PC5 PD1 PD0 PC4 PC1 PC0
MASTER STATUS
REMOTE SELECT
REMOTE SELECT
REMOTE SELECT
RS422 TX ENABLE
MASTER REQUEST
BAUD RATE
BAUD RATE
RESET
ICG11
BAUD RATE SELECTOR
ICF14, F15
CPU READY CONTROL
F14-13
F15-7,15
D8 READY
S2 TEST
ICF7
ICG6
PRIORITY SELECTOR
ICG4, G5, F5
PRIORITY CONTROLLER
G4-9
F5-2
G5-9
G5-8
G4-8
G4-11
ICG3
OUTPUT BUFFER
PRIORITY 2A OUT B7a SE,324-5A
PRIORITY 2B OUT B7c SE,324-5B
ICG1
INPUT BUFFER
PRIORITY 2A IN B4a SE,324-4A
PRIORITY 2B IN B4c SE,324-8B

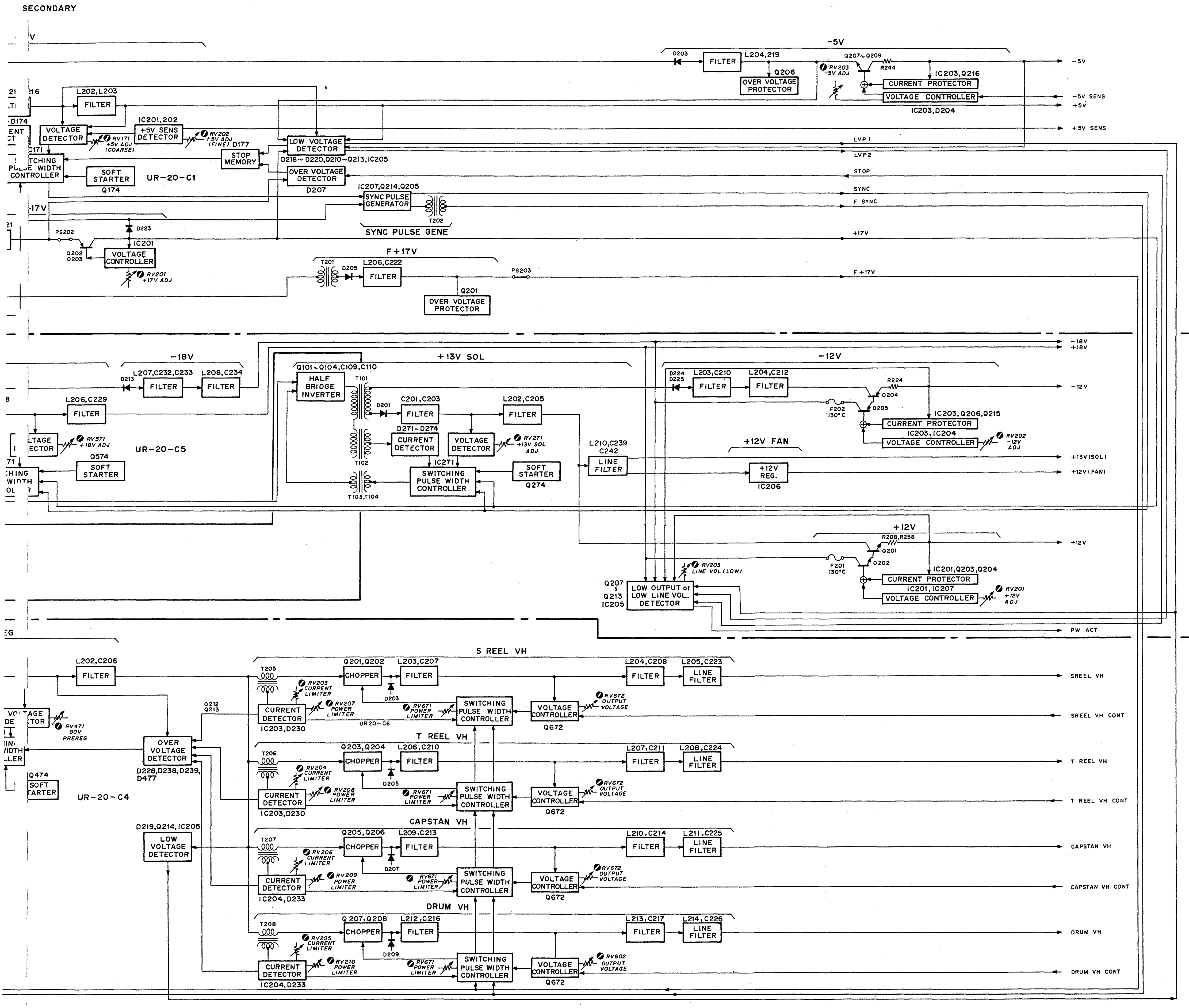
SY-103 BOARD **BLOCK DIAGRAM (2/2)**

BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

POWER SUPPLY BLOCK DIAGRAM

SP-01, SP-02, SP-03 BOARD


PRIMARY
SECONDARY
AC-82 BOARD
S1 POWER
AC IN
L
N
(J)
(UC)
(AEP)
L101,L102 C101,C102
NOISE FILTER
L103,C103 C108~C111
LINE FILTER
D101 C112,113
RECTIFIER
RY101,R101 R102
INRUSH CURRENT PROTECTOR
F101 109°C
L104,C115 C117,C119,C120
LINE FILTER
Q101~104,C128,C129
HALF BRIDGE INVERTER
T101
+5V
+12V
IC101
+12V REG.
L105
D104
C125
T106
L201,C214~216
FILTER
L202,L203
FILTER
D201 D202
D171~D174
CURRENT DETECTOR
VOLTAGE DETECTOR
RV171 +5V ADJ (COARSE)
IC201,202
+5V SENS DETECTOR
RV202 +5V ADJ (FINE)
D177
STOP MEMORY
LOW VOLTAGE DETECTOR
D218~D220,Q210~Q213,IC205
OVER VOLTAGE DETECTOR
D207
T102
IC171
SWITCHING PULSE WIDTH CONTROLLER
SOFT STARTER
Q174
UR-20-C1
T103,T104 Q171,Q172
IC207,Q214,Q205
SYNC PULSE GENERATOR
T202
SYNC PULSE GENE
+17V
D204
L205,C221
FILTER
PS202
D223
Q202 Q203
IC201
VOLTAGE CONTROLLER
RV201 +17V ADJ
STARTER
D107,D108
OPERATION DETECTOR
IC102
STARTER
T105
D124
PS201
F+17V
T201
D205
L206,C222
FILTER
PS203
Q201
OVER VOLTAGE PROTECTOR
D203
FILTER
L204,219
-5V
Q206
OVER VOLTAGE PROTECTOR
RV203 -5V ADJ
SP-01 BOARD
L101,C102,C103 C104,C100,C107
LINE FILTER
Q105~Q108,C114,C115
HALF BRIDGE INVERTER
T105
+18V
D212
L205,C227,C228
FILTER
L206,C229
FILTER
D571~D574
CURRENT DETECTOR
VOLTAGE DETECTOR
RV571 +18V ADJ
Q574
SOFT STARTER
UR-20-C5
T106
IC171
SWITCHING PULSE WIDTH CONTROLLER
T107,T108
-18V
D213
L207,C232,C233
FILTER
L208,C234
FILTER
+13V SOL
Q101~Q104,C109,C110
HALF BRIDGE INVERTER
T101
D201
C201,C203
FILTER
L202,C205
FILTER
D271~D274
CURRENT DETECTOR
VOLTAGE DETECTOR
RV271 +13V SOL ADJ
T102
IC271
SWITCHING PULSE WIDTH CONTROLLER
SOFT STARTER
Q274
T103,T104
-12V
D224 D225
L203,C210
FILTER
L204,C212
FILTER
F202 130°C
L210,C239 C242
LINE FILTER
+12V FAN
+12V REG.
IC206
PRIMARY
RV203 LINE VOL (LOW)
F201 130°C
Q207 ~ Q213 IC205
LOW OUTPUT or LOW LINE VOL. DETECTOR
SP-03 BOARD
L101,C101,C108 C109,C111,C113
LINE FILTER
Q101~Q104 C104,C105
HALF BRIDGE INVERTER
T101
90V PREREG
D201 D202
L201 C203~C205
FILTER
L202,C206
FILTER
T102
D211~D214
CURRENT DETECTOR
VOLTAGE DETECTOR
RV471 90V PREREG
T104
IC471
SWITCHING PULSE WIDTH CONTROLLER
Q474
SOFT STARTER
UR-20-C4
OVER VOLTAGE DETECTOR
D228,D238,D239, D477
Q212 Q213
D219,Q214,IC205
LOW VOLTAGE DETECTOR
S REEL VH
T205
Q201,Q202
CHOPPER
L203,C207
FILTER
D203
RV203 CURRENT LIMITER
RV207 POWER LIMITER
CURRENT DETECTOR
IC203,D230
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
UR20-C6
L204,C208
FILTER
L205,C223
LINE FILTER
RV672 OUTPUT VOLTAGE
VOLTAGE CONTROLLER
Q672
T REEL VH
T206
Q203,Q204
CHOPPER
L206,C210
FILTER
D205
RV204 CURRENT LIMITER
RV208 POWER LIMITER
CURRENT DETECTOR
IC203,D230
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
L207,C211
FILTER
L208,C224
LINE FILTER
RV672 OUTPUT VOLTAGE
VOLTAGE CONTROLLER
Q672
CAPSTAN VH
T207
Q205,Q206
CHOPPER
L209,C213
FILTER
D207
RV206 CURRENT LIMITER
RV209 POWER LIMITER
CURRENT DETECTOR
IC204,D233
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
L210,C214
FILTER
L211,C225
LINE FILTER
RV672 OUTPUT VOLTAGE
VOLTAGE CONTROLLER
Q672
DRUM VH
T208
Q207,Q208
CHOPPER
L212,C216
FILTER
D209
RV205 CURRENT LIMITER
RV210 POWER LIMITER
CURRENT DETECTOR
IC204,D233
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
L213,C217
FILTER
L214,C226
LINE FILTER
RV602 OUTPUT VOLTAGE
VOLTAGE CONTROLLER
Q672
SP-02 BOARD


SECONDARY
-5V
D203
FILTER
L204,219
Q206
OVER VOLTAGE PROTECTOR
Q207~Q209
RV203 -5V ADJ
R244
IC203,Q216
CURRENT PROTECTOR
VOLTAGE CONTROLLER
IC203,D204
-5V
-5V SENS
+5V
+5V SENS
L202,L203
FILTER
VOLTAGE DETECTOR
RV171 +5V ADJ (COARSE)
IC201,202
+5V SENS DETECTOR
RV202 +5V ADJ (FINE)
D177
STOP MEMORY
LOW VOLTAGE DETECTOR
D218~D220,Q210~Q213,IC205
OVER VOLTAGE DETECTOR
D207
SWITCHING PULSE WIDTH CONTROLLER
SOFT STARTER
Q174
UR-20-C1
IC207,Q214,Q205
SYNC PULSE GENERATOR
T202
SYNC PULSE GENE
LVP 1
LVP 2
STOP
SYNC
F SYNC
+17V
-17V
PS202
D223
IC201
Q202 Q203
VOLTAGE CONTROLLER
RV201 +17V ADJ
F+17V
T201
D205
L206,C222
FILTER
PS203
Q201
OVER VOLTAGE PROTECTOR
F+17V
-18V
+18V
-18V
L207,C232,C233
L208,C234
D213
FILTER
FILTER
L206,C229
FILTER
RV571 +18V ADJ
UR-20-C5
Q574
SOFT STARTER
+13V SOL
Q101~Q104,C109,C110
HALF BRIDGE INVERTER
T101
D201
C201,C203
FILTER
L202,C205
FILTER
D271~D274
CURRENT DETECTOR
VOLTAGE DETECTOR
RV271 +13V SOL ADJ
T102
IC271
SWITCHING PULSE WIDTH CONTROLLER
SOFT STARTER
Q274
T103,T104
L210,C239
C242
LINE FILTER
-12V
D224 D225
L203,C210
L204,C212
FILTER
FILTER
R224
Q204
F202 130°C
Q205
IC203,Q206,Q215
CURRENT PROTECTOR
IC203,IC204
VOLTAGE CONTROLLER
RV202 -12V ADJ
-12V
+12V FAN
+12V REG.
IC206
+13V(SOL)
+12V(FAN)
+12V
R208,R258
Q201
F201 130°C
Q202
IC201,Q203,Q204
CURRENT PROTECTOR
IC201,IC207
VOLTAGE CONTROLLER
RV201 +12V ADJ
+12V
RV203 LINE VOL (LOW)
Q207 ~ Q213 IC205
LOW OUTPUT or LOW LINE VOL. DETECTOR
PW ACT
S REEL VH
L202,C206
FILTER
T205
Q201,Q202
CHOPPER
L203,C207
FILTER
D203
RV203 CURRENT LIMITER
RV207 POWER LIMITER
Q212 Q213
CURRENT DETECTOR
IC203,D230
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
UR 20-C6
VOLTAGE CONTROLLER
Q672
RV672 OUTPUT VOLTAGE
L204,C208
FILTER
L205,C223
LINE FILTER
SREEL VH
SREEL VH CONT
RV471 90V PREREG
OVER VOLTAGE DETECTOR
D228,D238,D239, D477
Q474
SOFT STARTER
UR-20-C4
T REEL VH
T206
Q203,Q204
CHOPPER
L206,C210
FILTER
D205
RV204 CURRENT LIMITER
RV208 POWER LIMITER
CURRENT DETECTOR
IC203,D230
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
VOLTAGE CONTROLLER
Q672
RV672 OUTPUT VOLTAGE
L207,C211
FILTER
L208,C224
LINE FILTER
T REEL VH
T REEL VH CONT
CAPSTAN VH
D219,Q214,IC205
LOW VOLTAGE DETECTOR
T207
Q205,Q206
CHOPPER
L209,C213
FILTER
D207
RV206 CURRENT LIMITER
RV209 POWER LIMITER
CURRENT DETECTOR
IC204,D233
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
VOLTAGE CONTROLLER
Q672
RV672 OUTPUT VOLTAGE
L210,C214
FILTER
L211,C225
LINE FILTER
CAPSTAN VH
CAPSTAN VH CONT
DRUM VH
T208
Q207,Q208
CHOPPER
L212,C216
FILTER
D209
RV205 CURRENT LIMITER
RV210 POWER LIMITER
CURRENT DETECTOR
IC204,D233
RV671 POWER LIMITER
SWITCHING PULSE WIDTH CONTROLLER
VOLTAGE CONTROLLER
Q672
RV602 OUTPUT VOLTAGE
L213,C217
FILTER
L214,C226
LINE FILTER
DRUM VH
DRUM VH CONT

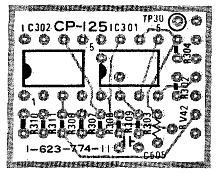
POWER SUPPLY BLOCK DIAGRAM
BVH-3000/3100(J,UC)
BVH-3000PS/3100PS

SECTION B
SCHEMATIC DIAGRAM & BOARD LAYOUT

	Board	Function	Page
A	AC-82	AC Circuit Breaker	B-253
	AP-15	Audio Preamplifier, Bias, Erase	B-106
	AU-88	Audio REC/PB Amplifier	B-120
B	BC-12	Audio Bias Level Adj.	B-240
C	CD-36	Capstan Motor/Drum Motor Driver	B-142
	CEH-2	Audio/CTL Erase Head	B-240
	CN-186	Fan Connector	B-233
	CK-27	TBC (AD Converter, Clock)	B-4
D	DD-7	DT Drive	B-148
	DE-18	Tension Sensor	B-233
	DET-3	Search Dial Detector	B-177
	DP-63	Sub Key	B-177
	DR-13	Video/Sync PB Amplifier	B-157
	DR-14	Rotary Head Relaying	B-157
	DR-15	Rotary Head Relaying	B-157
	DR-16	Rotary Head Relaying	B-157
	DS-19	TTP Aux	B-153
E	EN-55	Entry Key	B-177
H	HD-06	Video/Sync Erase Head	B-240
	HD-07	Audio/CTL R/P Head	B-240
	HD-07	Audio Monitor Head	B-240
	HD-08	Audio/CTL R/P Head (for A4)	B-240
	HD-08	Audio Monitor Head (for A4)	B-240
K	KC-14	Key Control	B-182
	KY-103	Main Key	B-177
L	LP-34	Meter Lamp	B-245
M	MA-26	Audio Monitor Amplifier	B-206
	MB-140	Mother Board	B-219
	MC-29	Threading Motor	B-233
	MOTOR	IP Roller Motor Driver	B-233
	MS-21	Monitor Select	B-245
N	NR-26	Audio Processor	Refer to BKH-3080.
P	PA-56	Parallel Remote	B-211
	PR-92	TBC Signal Processor	Refer to BKH-3020.
	PR-98	High Quality TBC Processor	Refer to BKH-3060.
	PS-143	Front Cover Sensor	B-233
	PS-143	Tape Sensor (LED)	B-233
	PS-143	Tape Sensor (Photo Transistor)	B-233
R	RD-7	Reference Signal Generator, DT Control	B-31
	RM-43	Reel Motor Driver	B-161
	RP-32	Video/Sync R/P Amplifier	B-166
S	SE-49	RS-422 Interface	B-255
	SE-56	RS-232C Interface	Refer to BKH-3002.
	SL-07	Slip Ring Relaying	B-157
	SL-08	Slip Ring Relaying	B-157
	SP-01	Switching Regulator	B-188
	SP-02	Switching Regulator	B-194
	SP-03	Switching Regulator	B-200
	SR-36	Slip Ring Relaying	B-157
	SV-90	Servo, Logic Control	B-53
	SW-195	Switch	B-245
	SY-103	System Control, Time Code	B-76
V	VO-16	Video Modulator/Demodulator	B-88
	VR-51	Meter/VR	B-172
	VS-30	Video Monitor	B-215

CP-125 BOARD (1-623-774-11)

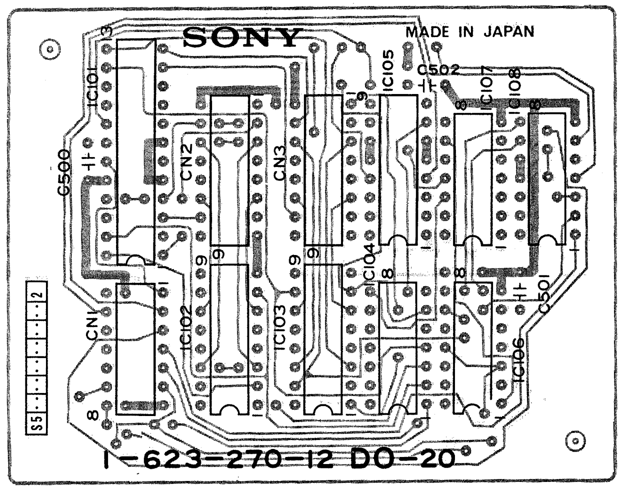
Component Side


IC302
CP-125
IC301
TP30
1-623-774-11

1-623-774-11
SOLDER SIDE

DO-20 BOARD (1-623-270-12)

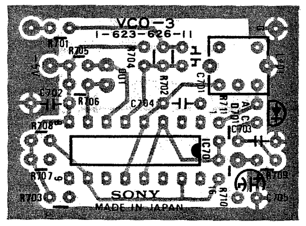
Component Side


SONY
MADE IN JAPAN
IC101
IC105
C502
IC107
IC108
C500
CN2
CN3
IC104
C501
CN1
IC102
IC103
IC106
1-623-270-12 DO-20

1-623-270-12 SOLDER SIDE

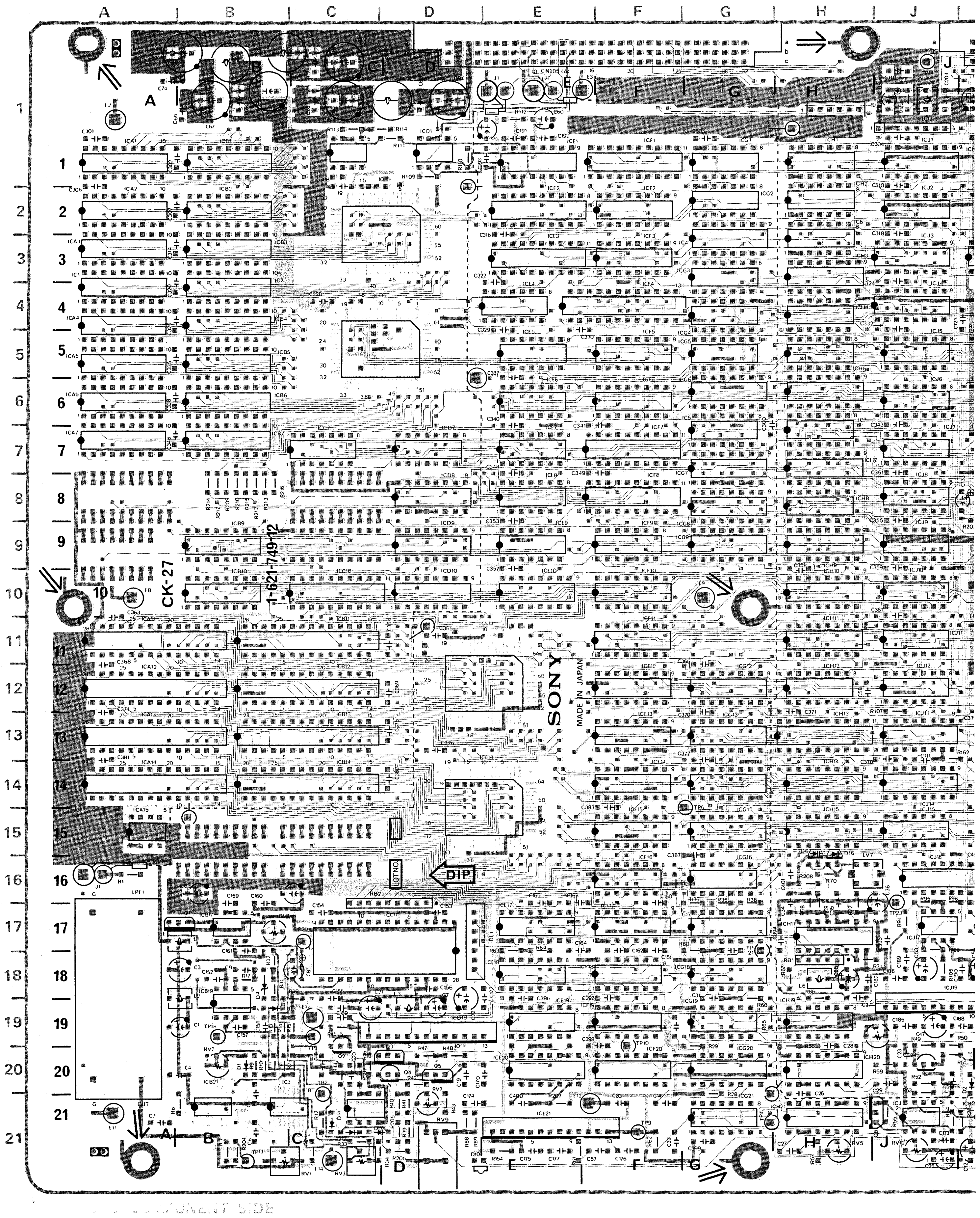
VCO-3 BOARD (1-623-626-11)

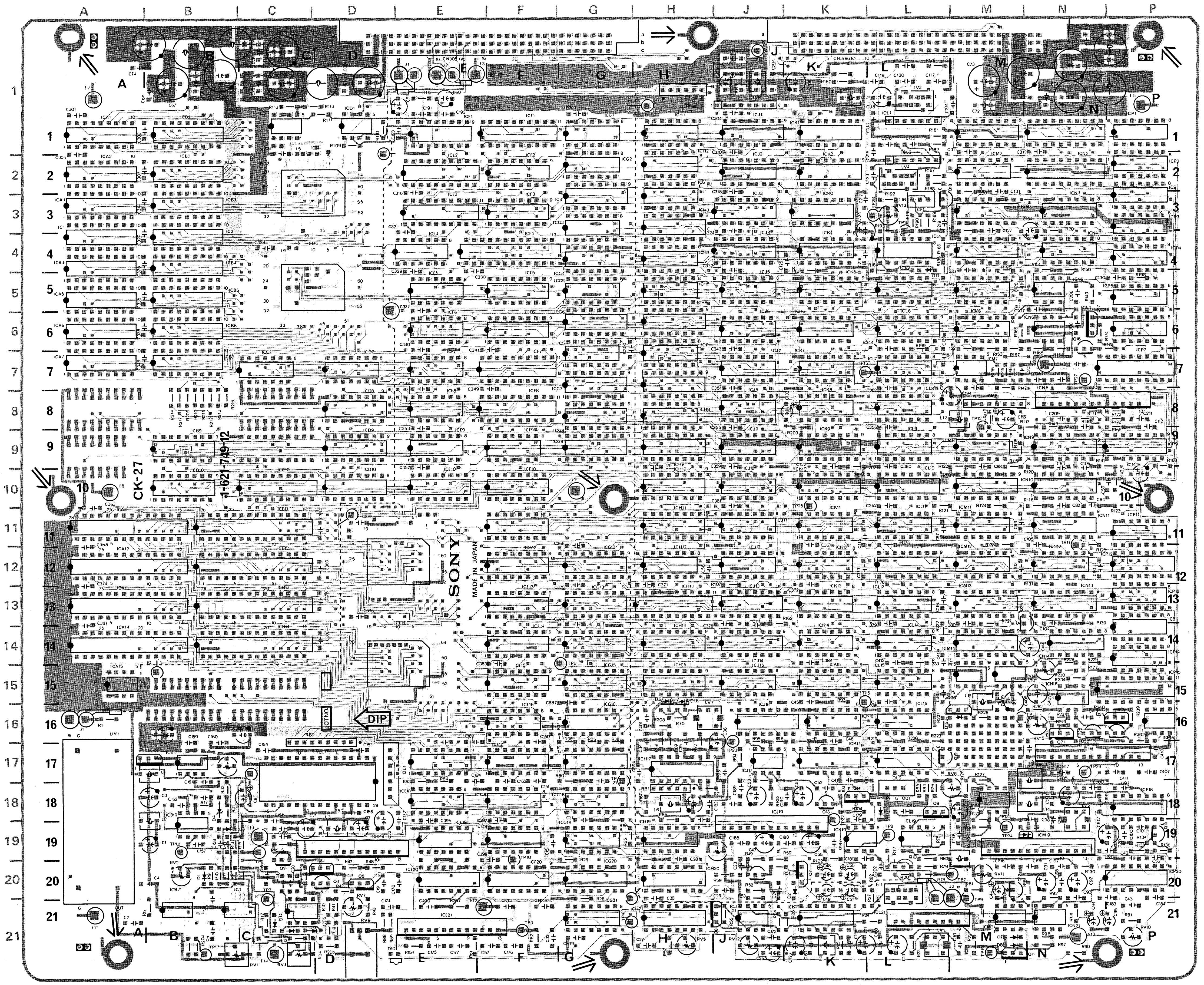
Component Side


VCO-3
1-623-626-11
SONY
MADE IN JAPAN

CK-27 BOARD (1-621-749-12)

Component Side


A
B
C
D
E
F
G
H
J
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
CK-27
1-621-749-12
SONY
MADE IN JAPAN
DIP
COMPONENT SIDE



1-621-749-12 SOLDER SIDE

CK-27 (1-621-749-12)

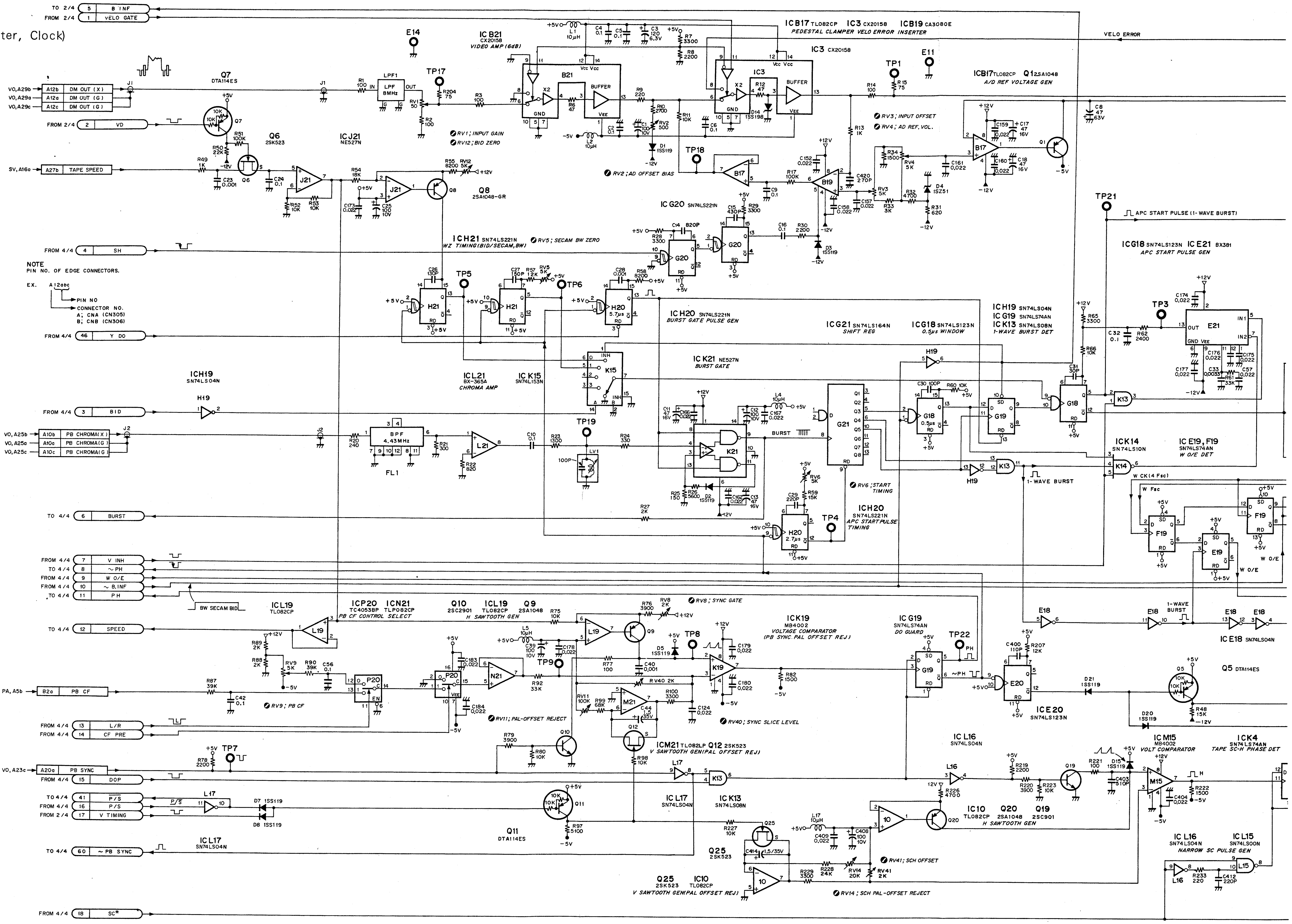
BVH-3000PS
BVH-3100PS

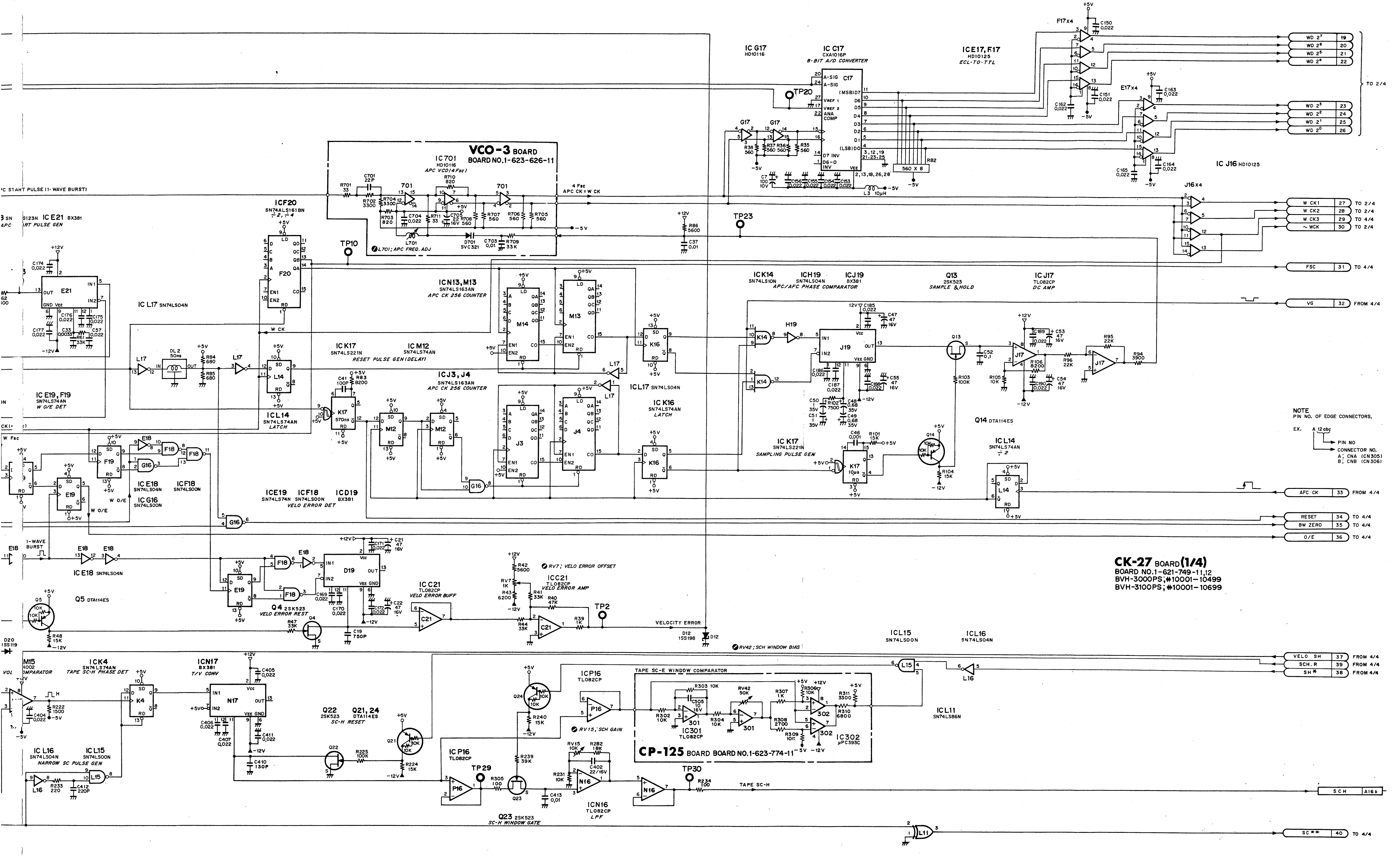
CF1	L3
CN305	E1
CN306	K1
CP1	H1
D1	B20
D2	K20
D3	B19
D4	B18
D5	L18
D6	H16
D7	M21
D8	M21
D9	N19
D10	D21
D11	L5
D12	C21
D13	C21
D14	C21
D15	M16
D16	H16
DL1	D17
DL2	L18
E1	A1
E5	P1
E7	D5
E8	A10
E9	G10
E10	N7
E11	A21
E12	F21
E14	C21
FL1	L20
IC1	A4
IC2	B4
IC3	B21
IC4	G3
IC5	G7
IC6	H3
IC7	H7
IC8	P14
IC10	M15
IC11	J1
LPF1	A17
LV1	L21
LV2	N18
LV3	L1
LV4	L2
LV7	H16
Q1	B17
Q2	C20
Q3	D20
Q4	D20
Q5	D20
Q6	J20
Q7	K20
Q8	J21
Q9	L18
Q10	L20
Q11	M21
Q12	M20
Q13	K18
Q14	K18
Q15	P19
Q16	N6
Q17	N6
Q19	L17
Q20	M16
Q21	N16
Q22	N16
Q23	P16
Q24	P16
Q25	N13
RB1	H18
RB2	C16
RV1	C21
RV2	B20
RV3	C21
RV3	L3
RV4	B17
RV5	H21
RV6	J19
RV7	D21
RV8	M18
RV9	D21
RV10	P21
RV11	M20
RV12	J21
RV14	N15
RV15	N16

TP1	C19
TP2	C20
TP3	F21
TP4	G21
TP5	K15
TP6	G15
TP7	M20
TP8	L19
TP9	M21
TP10	F20
TP11	N11
TP12	M8
TP14	J1
TP15	K7
TP16	L3
TP17	B21
TP18	B19
TP19	M21
TP20	C17
TP21	G18
TP22	K19
TP23	J17
TP24	M19
TP25	K10
TP27	N7
TP28	L3
TP29	N17

CK-27 BOARD (1/4)

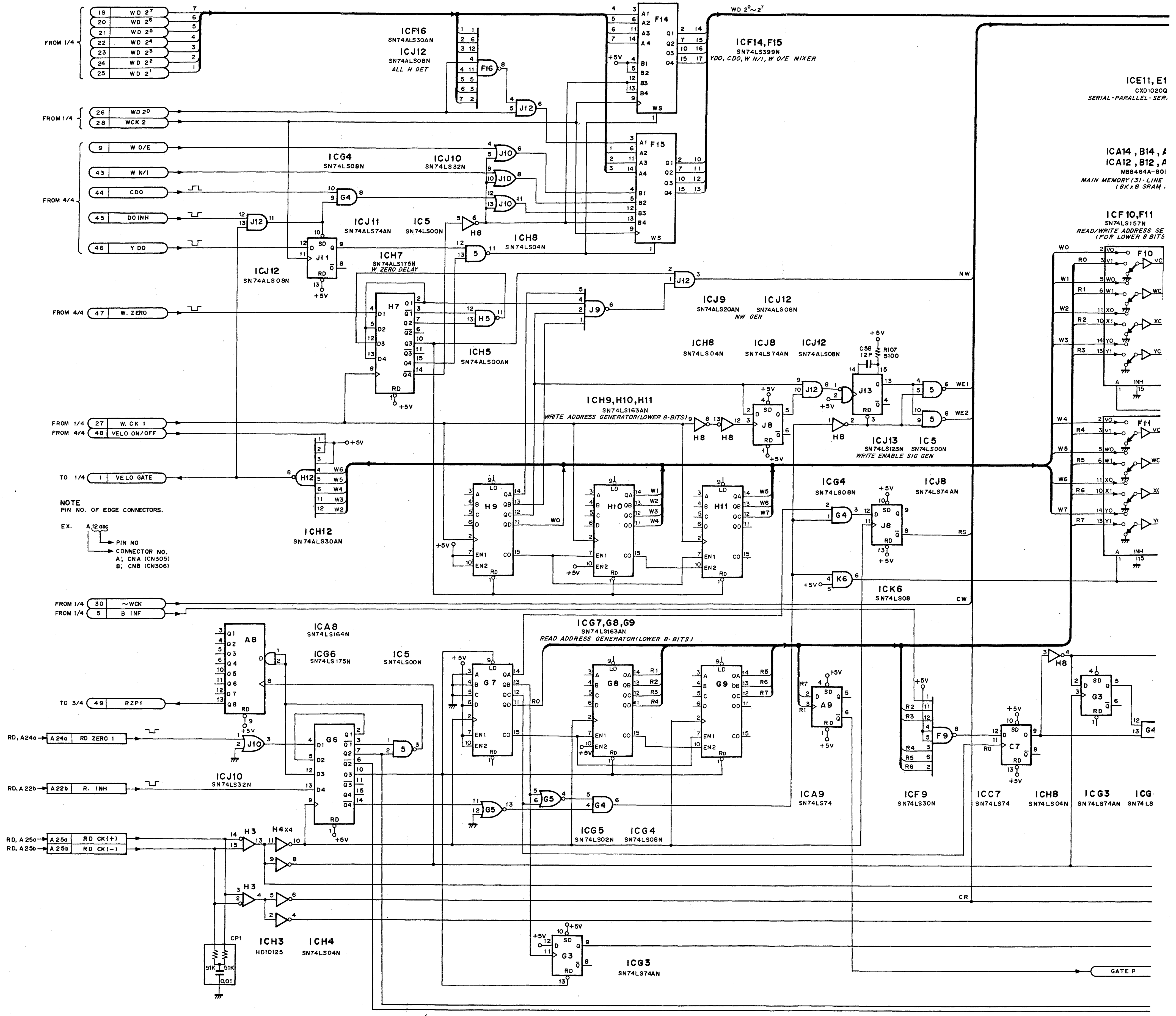
TBC (AD Converter, Clock)

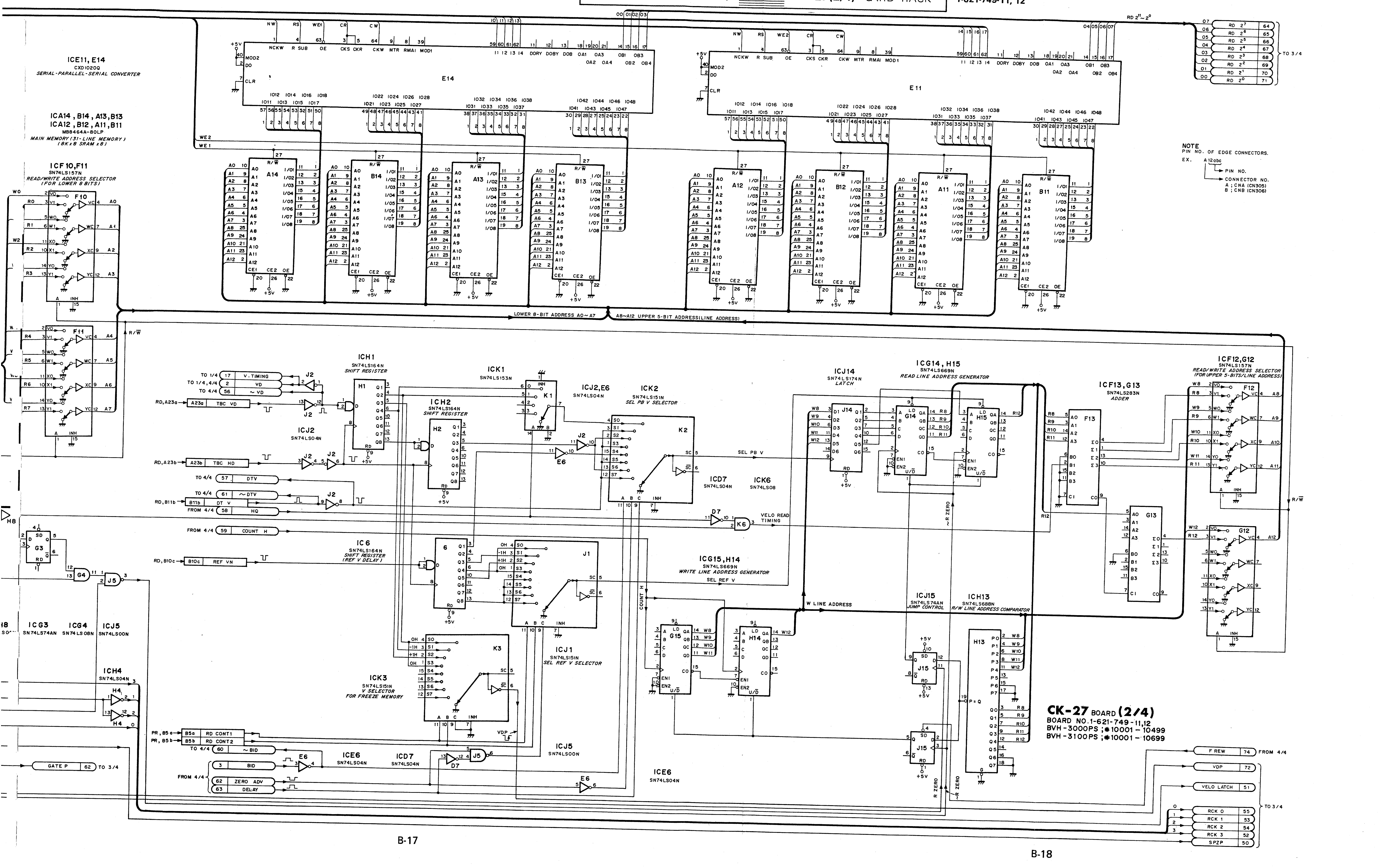

TO 2/4 5 B INF
FROM 2/4 1 VELO GATE
VO,A29b A12b DM OUT (X)
VO,A29a A12a DM OUT (G)
VO,A29c A12c DM OUT (G)
FROM 2/4 2 VD
SV,A16a A27b TAPE SPEED
FROM 4/4 4 SH
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
FROM 4/4 46 Y DO
FROM 4/4 3 BID
VO,A25b A10b PB CHROMA(X)
VO,A25a A10a PB CHROMA(G)
VO,A25c A10c PB CHROMA(G)
TO 4/4 6 BURST
FROM 4/4 7 V INH
TO 4/4 8 ~PH
FROM 4/4 9 W O/E
FROM 4/4 10 ~B.INF
TO 4/4 11 PH
BW SECAM BID
TO 4/4 12 SPEED
PA, A5b B2a PB CF
FROM 4/4 13 L/R
FROM 4/4 14 CF PRE
VO,A23c A20a PB SYNC
FROM 4/4 15 DOP
TO 4/4 41 P/S
FROM 4/4 16 P/S
FROM 2/4 17 V TIMING
TO 4/4 60 ~PB SYNC
FROM 4/4 18 SC*
Q7 DTA114ES
Q6 2SK523
IC J21 NE527N
IC B21 CX20158 VIDEO AMP (6dB)
ICB17 TL082CP IC3 CX20158 ICB19 CA3080E
PEDESTAL CLAMPER VELO ERROR INSERTER
IC3 CX20158
ICB17 TL082CP Q1 2SA1048
A/D REF VOLTAGE GEN
VELO ERROR
RV1; INPUT GAIN
RV12; BID ZERO
RV2; AD OFFSET BIAS
RV3; INPUT OFFSET
RV4; AD REF. VOL.
Q8 2SA1048-GR
IC G20 SN74LS221N
ICH21 SN74LS221N WZ TIMING(BID/SECAM,BW)
RV5; SECAM BW ZERO
IC H20 SN74LS221N BURST GATE PULSE GEN
ICG21 SN74LS164N SHIFT REG
ICG18 SN74LS123N 0.5μs WINDOW
ICH19 SN74LS04N
ICG19 SN74LS74AN
ICK13 SN74LS08N 1-WAVE BURST DET
ICG18 SN74LS123N ICE21 BX381 APC START PULSE GEN
APC START PULSE (1-WAVE BURST)
ICH19 SN74LS04N
ICL21 BX-365A CHROMA AMP
IC K15 SN74L153N
IC K21 NE527N BURST GATE
BPF 4.43MHz
FL1
BURST
RV6; START TIMING
ICH20 SN74LS221N APC START PULSE TIMING
ICK14 SN74LS10N
IC E19, F19 SN74LS74AN W O/E DET
1-WAVE BURST
W CK(4 Fsc)
W Fsc
W O/E
ICL19 TL082CP
ICP20 TC4053BP ICN21 TLP082CP PB CF CONTROL SELECT
Q10 2SC2901 ICL19 TL082CP Q9 2SA1048 H SAWTOOTH GEN
RV8; SYNC GATE
ICK19 MB4002 VOLTAGE COMPARATOR (PB SYNC PAL OFFSET REJ)
IC G19 SN74LS74AN DO GUARD
TP22 PH
ICE20 SN74LS123N
ICE18 SN74LS04N
Q5 DTA114ES
RV9; PB CF
RV11; PAL-OFFSET REJECT
RV40; SYNC SLICE LEVEL
ICM21 TL082LP Q12 2SK523 V SAWTOOTH GEN(PAL OFFSET REJ)
IC L16 SN74LS04N
ICM15 MB4002 VOLT COMPARATOR
ICK4 SN74LS74AN TAPE SC-H PHASE DET
IC L17 SN74LS04N
IC K13 SN74LS08N
Q11 DTA114ES
IC10 TL082CP Q20 2SA1048 Q19 2SC901 H SAWTOOTH GEN
Q25 2SK523
Q25 2SK523 IC10 TL082CP V SAWTOOTH GEN(PAL OFFSET REJ)
RV41; SCH OFFSET
RV14; SCH PAL-OFFSET REJECT
IC L16 SN74LS04N IC L15 SN74LS00N NARROW SC PULSE GEN
TP1 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP17 TP18 TP19 TP21
E11 E14 E18


IC G17 HD10116
IC C17 CXA1016P 8-BIT A/D CONVERTER
ICE17, F17 HD10125 ECL-TO-TTL
F17x4
E17x4
IC J16 HD10125
J16x4
WD 2⁷ 19
WD 2⁶ 20
WD 2⁵ 21
WD 2⁴ 22
WD 2³ 23
WD 2² 24
WD 2¹ 25
WD 2⁰ 26
TO 2/4
W CK1 27 TO 2/4
W CK2 28 TO 2/4
W CK3 29 TO 4/4
~ WCK 30 TO 2/4
FSC 31 TO 4/4
VG 32 FROM 4/4
AFC CK 33 FROM 4/4
RESET 34 TO 4/4
BW ZERO 35 TO 4/4
O/E 36 TO 4/4
VELO SH 37 FROM 4/4
SCH. R 39 FROM 4/4
SH* 38 FROM 4/4
SCH A16b
SC** 40 TO 4/4
TP20
TP23
TP10
TP2
TP29
TP30
VCO-3 BOARD
BOARD NO.1-623-626-11
IC 701 HD10116 APC VCO(4Fsc)
4 Fsc APC CK=W CK
L701; APC FREQ. ADJ
ICF20 SN74ALS161BN ÷2, ÷4
IC L17 SN74LS04N
ICL14 SN74LS74AN LATCH
ICN13, M13 SN74LS163AN APC CK 256 COUNTER
IC K17 SN74LS221N RESET PULSE GEN(DELAY)
IC M12 SN74LS74AN
ICJ3, J4 SN74LS163AN APC CK 256 COUNTER
ICL17 SN74LS04N
IC K16 SN74LS74AN LATCH
ICK14 SN74LS10N
ICH19 SN74LS04N APC/AFC PHASE COMPARATOR
ICJ19 BX381
Q13 2SK523 SAMPLE & HOLD
IC J17 TL082CP DC AMP
IC K17 SN74LS221N SAMPLING PULSE GEN
Q14 DTA114ES
IC L14 SN74LS74AN ÷2
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
IC E21 BX381 START PULSE GEN
C START PULSE (1-WAVE BURST)
IC E19, F19 SN74LS74AN W O/E DET
W Fsc
ICE18 SN74LS04N
ICF18 SN74LS00N
IC G16 SN74LS00N
W O/E
ICE19 SN74LS74N
ICF18 SN74LS00N
ICD19 BX381
VELO ERROR DET
1-WAVE BURST
IC E18 SN74LS04N
Q5 DTA114ES
Q4 2SK523 VELO ERROR REST
IC C21 TL082CP VELO ERROR BUFF
RV7; VELO ERROR OFFSET
ICC21 TL082CP VELO ERROR AMP
VELOCITY ERROR
D12 1SS198
RV42; SCH WINDOW BIAS
ICL15 SN74LS00N
ICL16 SN74LS04N
ICL11 SN74LS86N
M15 4002 COMPARATOR
ICK4 SN74LS74AN TAPE SC-H PHASE DET
ICN17 BX381 T/V CONV
Q22 2SK523
Q21, 24 DTA114ES SC-H RESET
ICP16 TL082CP
RV15; SCH GAIN
TAPE SC-E WINDOW COMPARATOR
IC301 TL082CP
IC302 μPC393C
CP-125 BOARD BOARD NO.1-623-774-11
IC L16 SN74LS04N
IC L15 SN74LS00N NARROW SC PULSE GEN
IC P16 TL082CP
Q23 2SK523 SC-H WINDOW GATE
ICN16 TL082CP LPF
TAPE SC-H
CK-27 BOARD(1/4)
BOARD NO.1-621-749-11,12
BVH-3000PS;#10001-10499
BVH-3100PS;#10001-10699

CK-27 BOARD (2/4)

TBC (AD Converter, Clock)


FROM 1/4
WD 2⁷
WD 2⁶
WD 2⁵
WD 2⁴
WD 2³
WD 2²
WD 2¹
WD 2⁰
WCK 2
FROM 4/4
W O/E
W N/I
CDO
DO INH
Y DO
W. ZERO
W. CK I
VELO ON/OFF
TO 1/4
VELO GATE
~WCK
B INF
TO 3/4
RZPI
RD ZERO I
R. INH
RD CK(+)
RD CK(−)
RD, A24a
RD, A22b
RD, A25a
RD, A25b
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12 abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
ICF16 SN74ALS30AN
ICJ12 SN74ALS08N
ALL H DET
ICF14,F15 SN74LS399N
YDO, CDO, W N/I, W O/E MIXER
WD 2⁰~2⁷
ICG4 SN74LS08N
ICJ10 SN74LS32N
ICJ11 SN74ALS74AN
IC5 SN74LS00N
ICH8 SN74LS04N
ICJ12 SN74ALS08N
ICH7 SN74LS175N
W ZERO DELAY
ICH5 SN74ALS00AN
ICJ9 SN74LS20AN
ICJ12 SN74ALS08N
NW GEN
ICH8 SN74LS04N
ICJ8 SN74LS74AN
ICJ12 SN74ALS08N
C56 12P
R107 5100
ICH9,H10,H11 SN74LS163AN
WRITE ADDRESS GENERATOR(LOWER 8-BITS)
ICJ13 SN74LS123N
IC5 SN74LS00N
WRITE ENABLE SIG GEN
WE1
WE2
NW
ICH12 SN74ALS30AN
ICG4 SN74LS08N
ICJ8 SN74LS74AN
RS
ICK6 SN74LS08
CW
ICA8 SN74LS164N
ICG6 SN74LS175N
IC5 SN74LS00N
ICG7,G8,G9 SN74LS163AN
READ ADDRESS GENERATOR(LOWER 8-BITS)
ICA9 SN74LS74
ICF9 SN74LS30N
ICC7 SN74LS74
ICH8 SN74LS04N
ICG3 SN74LS74AN
ICJ10 SN74LS32N
ICG5 SN74LS02N
ICG4 SN74LS08N
ICH3 HD10125
ICH4 SN74LS04N
CP1
51K
0.01
ICG3 SN74LS74AN
CR
GATE P
ICE11, E1
CXD1020Q
SERIAL-PARALLEL-SER
ICA14, B14,
ICA12, B12,
MB8464A-80
MAIN MEMORY (31-LINE
(8K x 8 SRAM
ICF10,F11
SN74LS157N
READ/WRITE ADDRESS SE
(FOR LOWER 8 BITS
F10
F11
W0 W1 W2 W3 W4 W5 W6 W7
R0 R1 R2 R3 R4 R5 R6 R7
INH
+5V

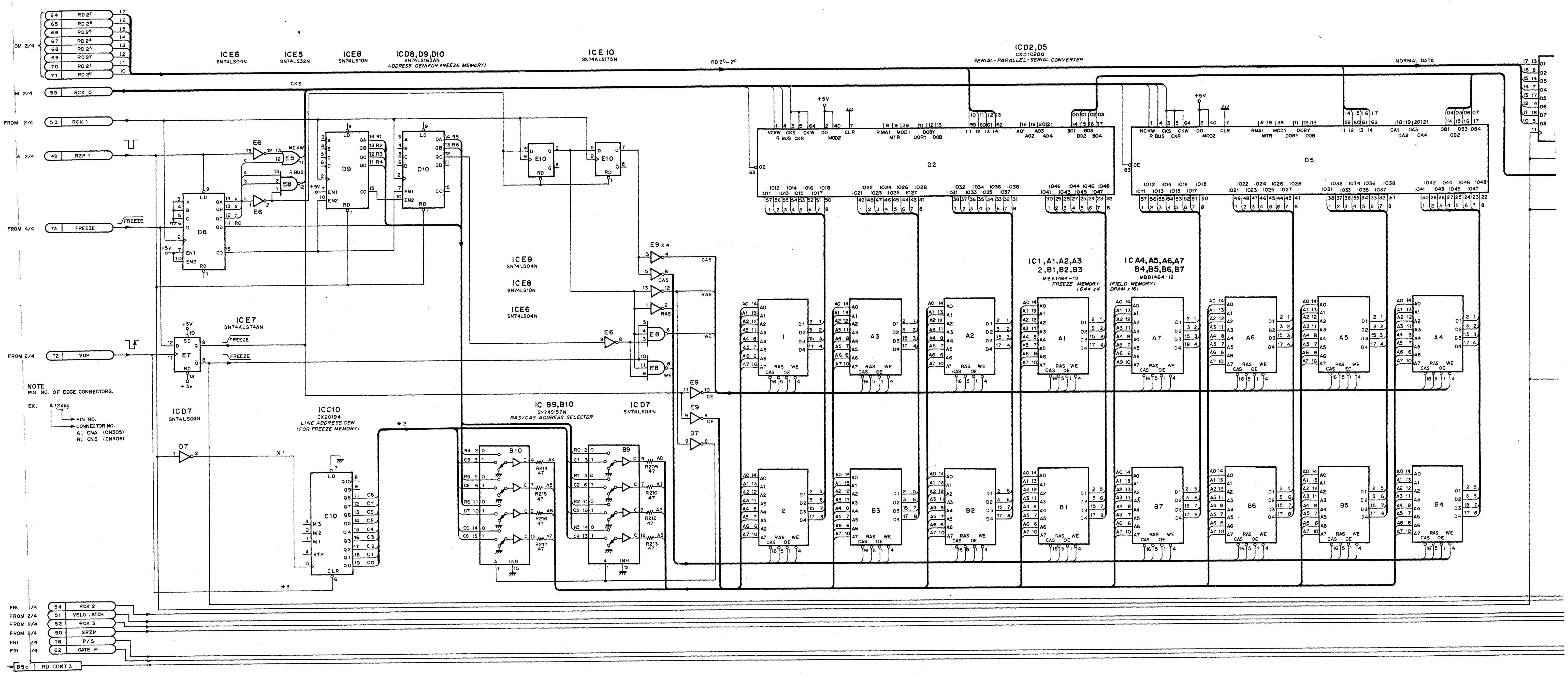

ICE11, E14
CXD1020Q
SERIAL-PARALLEL-SERIAL CONVERTER
ICA14, B14, A13, B13
ICA12, B12, A11, B11
MB8464A-80LP
MAIN MEMORY (31-LINE MEMORY)
(8K x 8 SRAM x 8)
ICF10, F11
SN74LS157N
READ/WRITE ADDRESS SELECTOR
(FOR LOWER 8 BITS)
E14
E11
A14
B14
A13
B13
A12
B12
A11
B11
F10
F11
LOWER 8-BIT ADDRESS A0~A7
A8~A12 UPPER 5-BIT ADDRESS(LINE ADDRESS)
R/W
RD 2¹¹~2⁰
RD 2⁷ 64
RD 2⁶ 65
RD 2⁵ 66
RD 2⁴ 67
RD 2³ 68
RD 2² 69
RD 2¹ 70
RD 2⁰ 71
TO 3/4
ICH1
SN74LS164N
SHIFT REGISTER
ICH2
SN74LS164N
SHIFT REGISTER
ICK1
SN74LS153N
ICJ2, E6
SN74LS04N
ICK2
SN74LS151N
SEL PB V SELECTOR
ICJ2
SN74LS04N
ICD7
SN74LS04N
ICK6
SN74LS08
IC6
SN74LS164N
SHIFT REGISTER
(REF V DELAY)
J1
ICK3
SN74LS151N
V SELECTOR
FOR FREEZE MEMORY
ICJ1
SN74LS151N
SEL REF V SELECTOR
ICJ5
SN74LS00N
ICE6
SN74LS04N
ICD7
SN74LS04N
ICG3
SN74LS74AN
ICG4
SN74LS08N
ICJ5
SN74LS00N
ICH4
SN74LS04N
TO 1/4 17 V-TIMING
TO 1/4, 4/4 2 VD
TO 4/4 56 ~VD
RD, A23a A23a TBC VD
RD, A23b A23b TBC HD
TO 4/4 57 DTV
TO 4/4 61 ~DTV
RD, B11b B11b DT V
FROM 4/4 58 HQ
FROM 4/4 59 COUNT H
RD, B10c B10c REF VN
PR, B5a B5a RD CONT1
PR, B5b B5b RD CONT2
TO 4/4 60 ~BID
3 BID
FROM 4/4 62 ZERO ADV
63 DELAY
GATE P 62 TO 3/4
VDP
SEL PB V
SEL REF V
VELO READ TIMING
COUNT H
W LINE ADDRESS
ICJ14
SN74LS174N
LATCH
ICG14, H15
SN74LS669N
READ LINE ADDRESS GENERATOR
ICG15, H14
SN74LS669N
WRITE LINE ADDRESS GENERATOR
ICJ15
SN74LS74AN
JUMP CONTROL
ICH13
SN74LS688N
R/W LINE ADDRESS COMPARATOR
ICF13, G13
SN74LS283N
ADDER
ICF12, G12
SN74LS157N
READ/WRITE ADDRESS SELECTOR
(FOR UPPER 5-BITS/LINE ADDRESS)
J14
G14
H15
G15
H14
J15
H13
F13
G13
F12
G12
~R ZERO
R ZERO
F REW 74 FROM 4/4
VDP 72
VELO LATCH 51
RCK 0 55
RCK 1 53
RCK 2 54
RCK 3 52
SPZP 50
TO 3/4

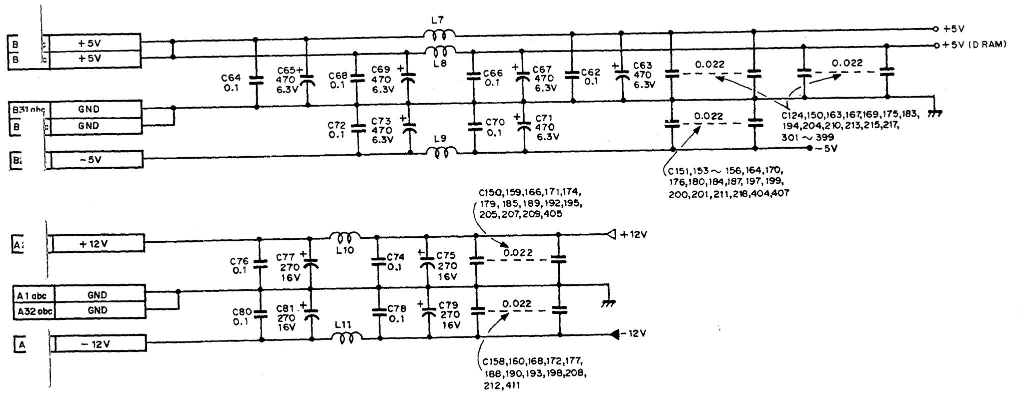
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A ; CNA (CN305)
B ; CNB (CN306)

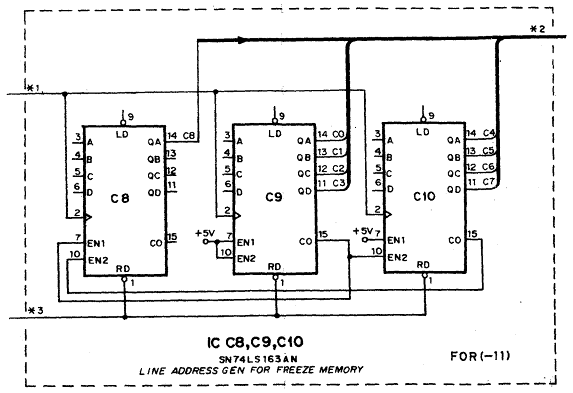
CK-27 BOARD **(2/4)**
BOARD NO.1-621-749-11,12
BVH-3000PS ;#10001-10499
BVH-3100PS ;#10001-10699

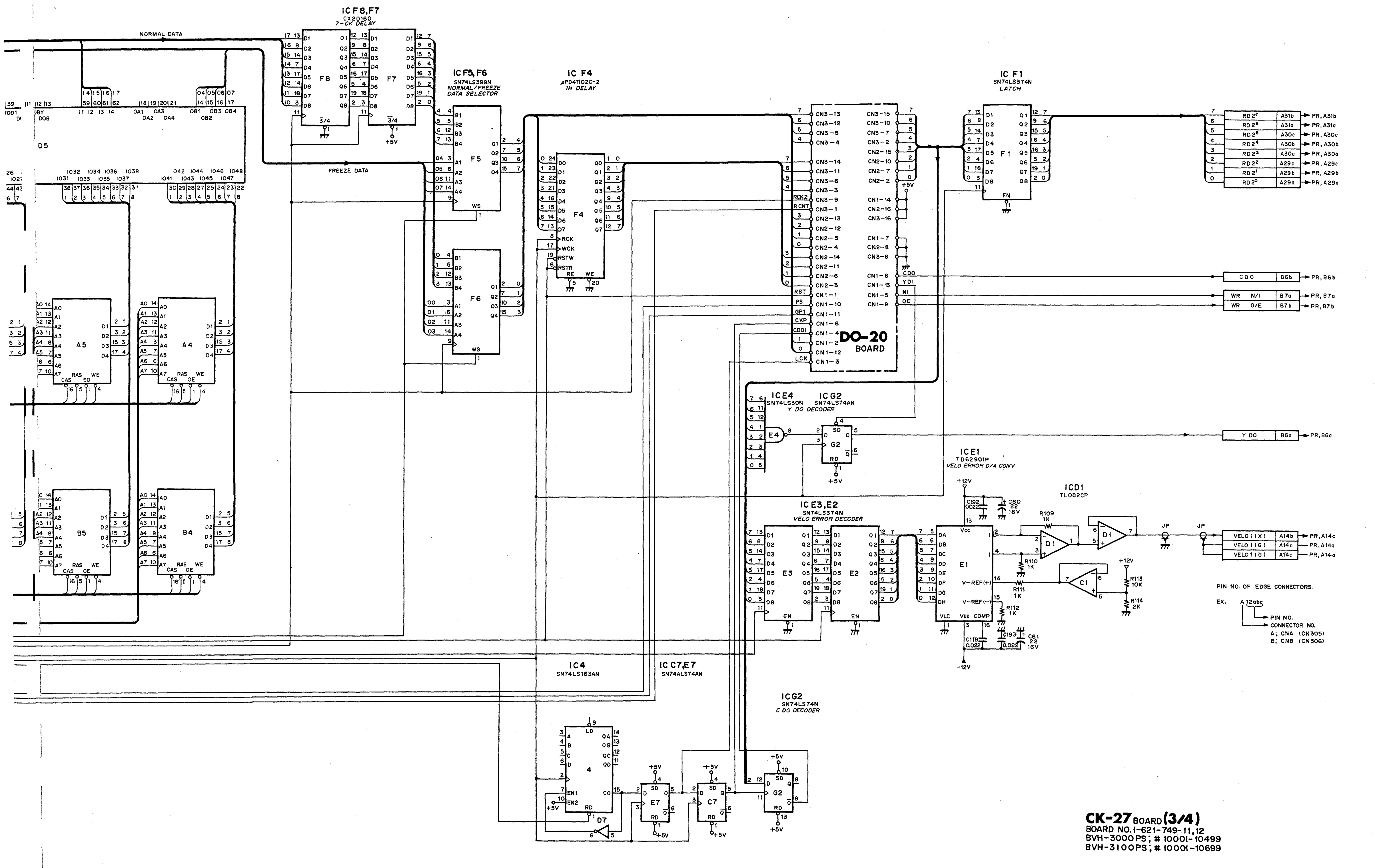
(-27 BOARD (3/4)

BC (AD Converter, Clock)

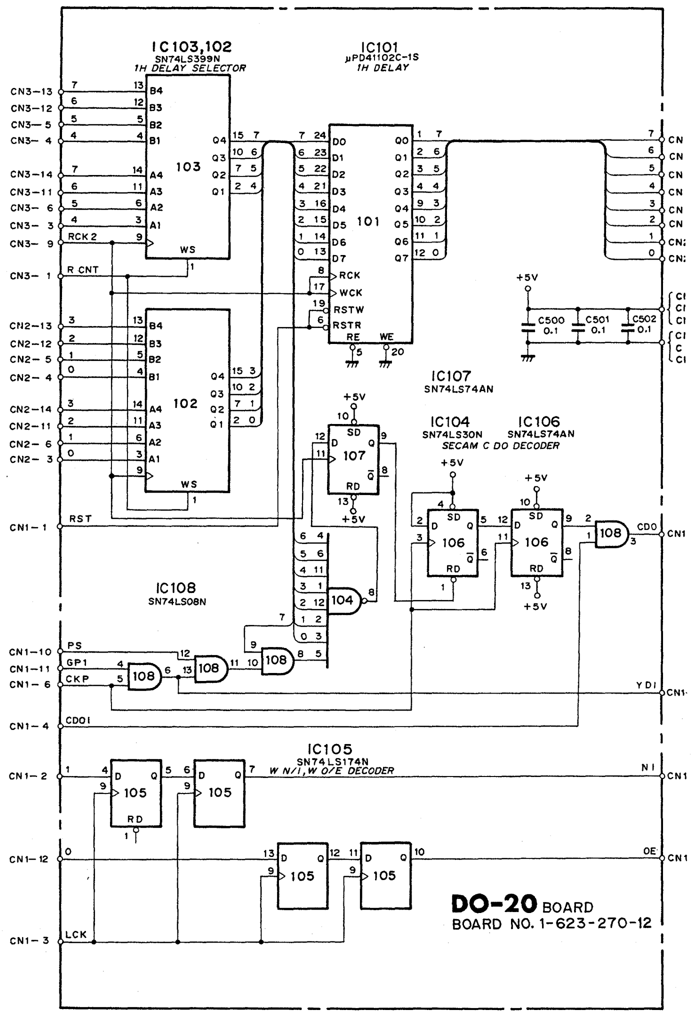

RD 2⁷ ~ RD 2⁰
RCK 0
RCK 1
RZP 1
FREEZE
VDP
ICE6 SN74LS04N
ICE5 SN74LS32N
ICE8 SN74LS10N
ICD8,D9,D10 SN74LS163AN ADDRESS GEN(FOR FREEZE MEMORY)
ICE10 SN74LS175N
ICD2,D5 CXD1020Q SERIAL-PARALLEL-SERIAL CONVERTER
NORMAL DATA
ICE9 SN74LS04N
ICE8 SN74LS10N
ICE6 SN74LS04N
ICE7 SN74ALS74AN
ICD7 SN74LS04N
ICC10 CX20194 LINE ADDRESS GEN (FOR FREEZE MEMORY)
IC B9,B10 SN74S157N RAS/CAS ADDRESS SELECTOR
ICD7 SN74LS04N
IC1,A1,A2,A3 2,B1,B2,B3 MB81464-12 FREEZE MEMORY (64K x 4)
ICA4,A5,A6,A7 B4,B5,B6,B7 MB81464-12 (FIELD MEMORY) DRAM x 16
NOTE PIN NO. OF EDGE CONNECTORS.
EX. A12abc → PIN NO. → CONNECTOR NO. A; CNA (CN305) B; CNB (CN306)
RCK 2
VELO LATCH
RCK 3
SRZP
P/S
GATE P
RD CONT 3


+5V
+5V (D RAM)
GND
-5V
+12V
-12V
L7 L8 L9 L10 L11
C64 0.1
C65 470 6.3V
C68 0.1
C69 470 6.3V
C66 0.1
C67 470 6.3V
C62 0.1
C63 470 6.3V
C72 0.1
C73 470 6.3V
C70 0.1
C71 470 6.3V
0.022
C124,150,163,167,169,175,183, 194,204,210,213,215,217, 301 ~ 399
C151,153 ~ 156,164,170, 176,180,184,187,197,199, 200,201,211,218,404,407
C150,159,166,171,174, 179,185,189,192,195, 205,207,209,405
C76 0.1
C77 270 16V
C74 0.1
C75 270 16V
C80 0.1
C81 270 16V
C78 0.1
C79 270 16V
C158,160,168,172,177, 186,190,193,198,208, 212,411


C8 C9 C10
IC C8,C9,C10
SN74LS163AN
LINE ADDRESS GEN FOR FREEZE MEMORY
FOR(-11)


IC F8,F7
CX20160
7-CK DELAY
NORMAL DATA
FREEZE DATA
IC F5,F6
SN74LS399N
NORMAL/FREEZE DATA SELECTOR
IC F4
μPD41102C-2
1H DELAY
IC F1
SN74LS374N
LATCH
DO-20 BOARD
ICE4
SN74LS30N
ICG2
SN74LS74AN
Y DO DECODER
ICE1
TD62901P
VELO ERROR D/A CONV
ICD1
TL082CP
ICE3,E2
SN74LS374N
VELO ERROR DECODER
IC4
SN74LS163AN
IC C7,E7
SN74ALS74AN
ICG2
SN74LS74N
C DO DECODER
A5
A4
B5
B4
D5
F8
F7
F5
F6
F4
F1
E4
G2
E1
E3
E2
D1
C1
E7
C7
D7
RD 2⁷ A31b PR,A31b
RD 2⁶ A31a PR,A31a
RD 2⁵ A30c PR,A30c
RD 2⁴ A30b PR,A30b
RD 2³ A30a PR,A30a
RD 2² A29c PR,A29c
RD 2¹ A29b PR,A29b
RD 2⁰ A29a PR,A29a
CDO B6b PR,B6b
WR N/I B7a PR,B7a
WR O/E B7b PR,B7b
Y DO B6a PR,B6a
VELO 1 (X) A14b PR,A14c
VELO 1 (G) A14a PR,A14a
VELO 1 (G) A14c PR,A14a
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
JP
+12V
-12V
+5V
R109 1K
R110 1K
R111 1K
R112 1K
R113 10K
R114 2K
C192 0.022
C60 22 16V
C119 0.022
C193 0.022
C61 22 16V

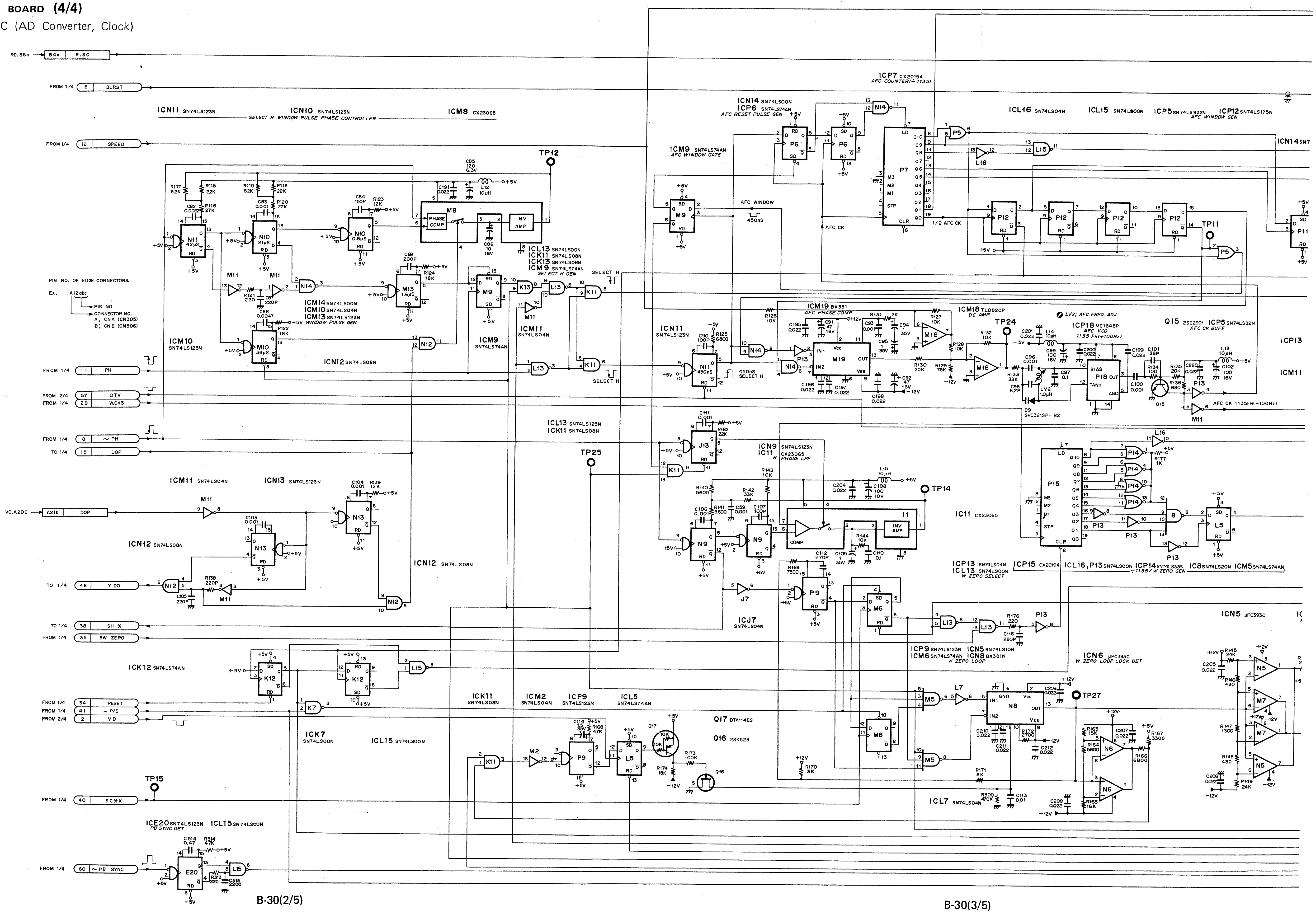
CK-27 BOARD **(3/4)**
BOARD NO. 1-621-749-11, 12
BVH-3000PS; # 10001-10499
BVH-3100PS; # 10001-10699

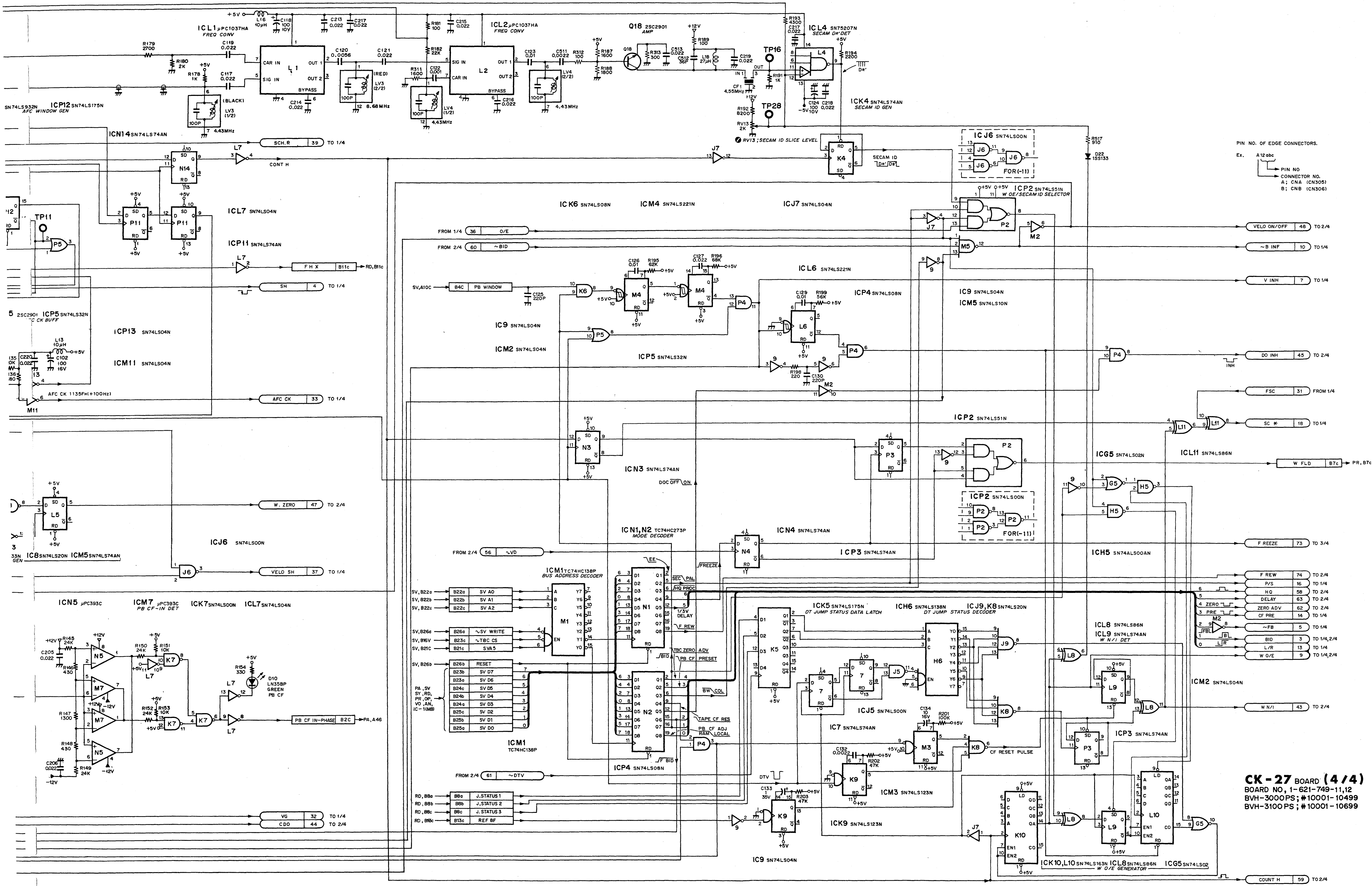

IC103,102
SN74LS399N
1H DELAY SELECTOR
IC101
μPD41102C-1S
1H DELAY
IC107
SN74LS74AN
IC104
SN74LS30N
IC106
SN74LS74AN
SECAM C DO DECODER
IC108
SN74LS08N
IC105
SN74LS174N
W N/I, W O/E DECODER
103
102
101
107
104
106
108
105
C500 0.1
C501 0.1
C502 0.1
+5V
CDO
YDI
NI
OE
RST
PS
GP1
CKP
CDO1
LCK
RCK 2
R CNT

DO-20 BOARD
BOARD NO. 1-623-270-12

CK-27 BOARD (4/4)

TBC (AD Converter, Clock)

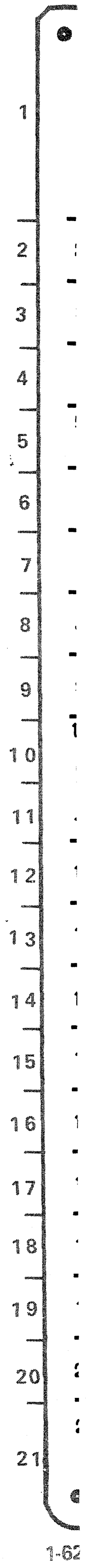

RD,B5a
B4a
R.SC
FROM 1/4 6 BURST
FROM 1/4 12 SPEED
FROM 1/4 11 PH
FROM 2/4 57 DTV
FROM 1/4 29 W.CK3
FROM 1/4 8 ~PH
TO 1/4 15 DOP
V0,A20C A21b DOP
TO 1/4 46 Y DO
TO 1/4 38 SH ✱
FROM 1/4 35 BW ZERO
FROM 1/4 34 RESET
FROM 1/4 41 ~P/S
FROM 2/4 2 VD
FROM 1/4 40 SC✱✱
FROM 1/4 60 ~PB SYNC
PIN NO. OF EDGE CONNECTORS.
Ex. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
ICN11 SN74LS123N
ICN10 SN74LS123N
SELECT H WINDOW PULSE PHASE CONTROLLER
ICM8 CX23065
TP12
ICL13 SN74LS00N
ICK11 SN74LS08N
ICL13 SN74LS08N
ICM9 SN74LS74AN
SELECT H GEN
ICN14 SN74LS00N
ICM10 SN74LS04N
ICM13 SN74LS123N
WINDOW PULSE GEN
ICM10 SN74LS123N
ICN12 SN74LS08N
ICM9 SN74LS74AN
ICM11 SN74LS04N
SELECT H
ICN11 SN74LS123N
ICM11 SN74LS04N
ICN13 SN74LS123N
ICN12 SN74LS08N
ICK12 SN74LS74AN
ICK7 SN74LS00N
ICL15 SN74LS00N
ICK11 SN74LS08N
ICM2 SN74LS04N
ICP9 SN74LS123N
ICL5 SN74LS74AN
Q17 DTA114ES
Q16 2SK523
TP15
ICE20 SN74LS123N
ICL15 SN74LS00N
PB SYNC DET
TP25
ICP7 CX20194
AFC COUNTER(÷1135)
ICN14 SN74LS00N
ICP6 SN74LS74AN
AFC RESET PULSE GEN
ICM9 SN74LS74AN
AFC WINDOW GATE
AFC WINDOW
450nS
AFC CK
1/2 AFC CK
ICL16 SN74LS04N
ICL15 SN74LS00N
ICP5 SN74LS32N
ICP12 SN74LS175N
AFC WINDOW GEN
TP11
ICM19 BX381
AFC PHASE COMP
ICM18 TL082CP
DC AMP
TP24
LV2; AFC FREQ. ADJ
ICP18 MC1648P
AFC VCO
1135 FH(+100Hz)
Q15 2SC2901
ICP5 SN74LS32N
AFC CK BUFF
AFC CK 1135FH(+100Hz)
D9 SVC321SP-B2
ICN9 SN74LS123N
IC11 CX23065
H PHASE LPF
TP14
IC11 CX23065
ICJ7 SN74LS04N
ICP13 SN74LS04N
ICL13 SN74LS00N
W ZERO SELECT
ICP15 CX20194
ICL16, P13 SN74LS00N
ICP14 SN74LS33N
÷1135/W ZERO GEN
IC8 SN74LS20N
ICM5 SN74LS74AN
ICP9 SN74LS123N
ICM6 SN74LS74AN
ICN5 SN74LS10N
ICN8 BX381N
W ZERO LOOP
TP27
ICN6 μPC393C
W ZERO LOOP LOCK DET
ICN5 μPC393C
ICL7 SN74LS04N
ICN14
ICP13
ICM11


ICL1 μPC1037HA FREQ CONV
ICL2 μPC1037HA FREQ CONV
Q18 2SC2901 AMP
ICL4 SN75207N SECAM OR'DET
ICK4 SN74LS74AN SECAM ID GEN
ICP12 SN74LS175N AFC WINDOW GEN
ICN14 SN74LS74AN
TP11
TP16
TP28
RV13 ; SECAM ID SLICE LEVEL
LV3 (BLACK)
LV3 (RED)
LV4
4.43MHz
8.68MHz
4.55MHz
CF1
SCH.R 39 TO 1/4
CONT H
SECAM ID
ICJ6 SN74LS00N
FOR(-11)
ICP2 SN74LS51N W OE/SECAM ID SELECTOR
PIN NO. OF EDGE CONNECTORS.
Ex. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
ICL7 SN74LS04N
ICP11 SN74LS74AN
FHX B11c RD,B11c
SH 4 TO 1/4
ICP13 SN74LS04N
ICM11 SN74LS04N
ICP5 SN74LS32N
AFC CK 1135FH(+100Hz)
AFC CK 33 TO 1/4
W. ZERO 47 TO 2/4
ICJ6 SN74LS00N
IC8 SN74LS20N
ICM5 SN74LS74AN
VELO SH 37 TO 1/4
ICN5 μPC393C
ICM7 μPC393C PB CF-IN DET
ICK7 SN74LS00N
ICL7 SN74LS04N
D10 LN35BP GREEN PB CF
PB CF IN-PHASE B2C PA,A46
VG 32 TO 1/4
CDO 44 TO 2/4
ICK6 SN74LS08N
ICM4 SN74LS221N
ICJ7 SN74LS04N
FROM 1/4 36 O/E
FROM 2/4 60 ~BID
SV,A10C 84C PB WINDOW
ICL6 SN74LS221N
ICP4 SN74LS08N
IC9 SN74LS04N
ICM5 SN74LS10N
IC9 SN74LS04N
ICM2 SN74LS04N
ICP5 SN74LS32N
VELO ON/OFF 48 TO 2/4
~B INF 10 TO 1/4
V INH 7 TO 1/4
DO INH 45 TO 2/4
FSC 31 FROM 1/4
SC Φ 18 TO 1/4
ICP2 SN74LS51N
ICN3 SN74LS74AN
ICG5 SN74LS02N
ICL11 SN74LS86N
W FLD B7c PR,B7c
ICP2 SN74LS00N
DOC OFF ON
ICN1,N2 TC74HC273P MODE DECODER
ICN4 SN74LS74AN
ICP3 SN74LS74AN
ICH5 SN74ALS00AN
FROM 2/4 56 ~VD
F REEZE 73 TO 3/4
ICM1 TC74HC138P BUS ADDRESS DECODER
SV AO
SV A1
SV A2
~SV WRITE
~TBC CS
SVA5
RESET
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
PA, SV, SY, RD, PR, OP, VO, AN, IC-1(MB)
ICM1 TC74HC138P
ICP4 SN74LS08N
EE
SEC PAL
HQ PROC
FREEZE
1/3V DELAY
F REW
TBC ZERO ADV
PB CF PRESET
BID
BW COL
TAPE CF RES
PB CF ADJ
RAM LOCAL
F BID
ICK5 SN74LS175N DT JUMP STATUS DATA LATCH
ICH6 SN74LS138N DT JUMP STATUS DECODER
ICJ9,K8 SN74LS20N
ICJ5 SN74LS00N
IC7 SN74LS74AN
CF RESET PULSE
ICM3 SN74LS123N
ICK9 SN74LS123N
IC9 SN74LS04N
FROM 2/4 61 ~DTV
DTV
J.STATUS 1
J.STATUS 2
J.STATUS 3
REF 8F
F REW 74 TO 2/4
P/S 16 TO 1/4
HQ 58 TO 2/4
DELAY 63 TO 2/4
ZERO ADV 62 TO 2/4
CF PRE 14 TO 1/4
~FB 5 TO 1/4
BID 3 TO 1/4,2/4
L/R 13 TO 1/4
W O/E 9 TO 1/4,2/4
ICL8 SN74LS86N
ICL9 SN74LS74AN W N/I DET
ICM2 SN74LS04N
W N/I 43 TO 2/4
ICP3 SN74LS74AN
ICK10,L10 SN74LS163N
ICL8 SN74LS86N
ICG5 SN74LS02
W O/E GENERATOR
COUNT H 59 TO 2/4

CK-27 BOARD **(4/4)**
BOARD NO, 1-621-749-11,12
BVH-3000PS; #10001-10499
BVH-3100PS; #10001-10699

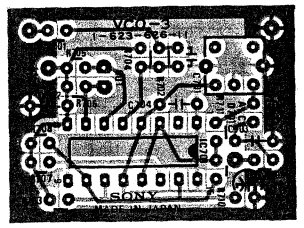
CK-27 BOARD (1-621-749-14)

Component Side

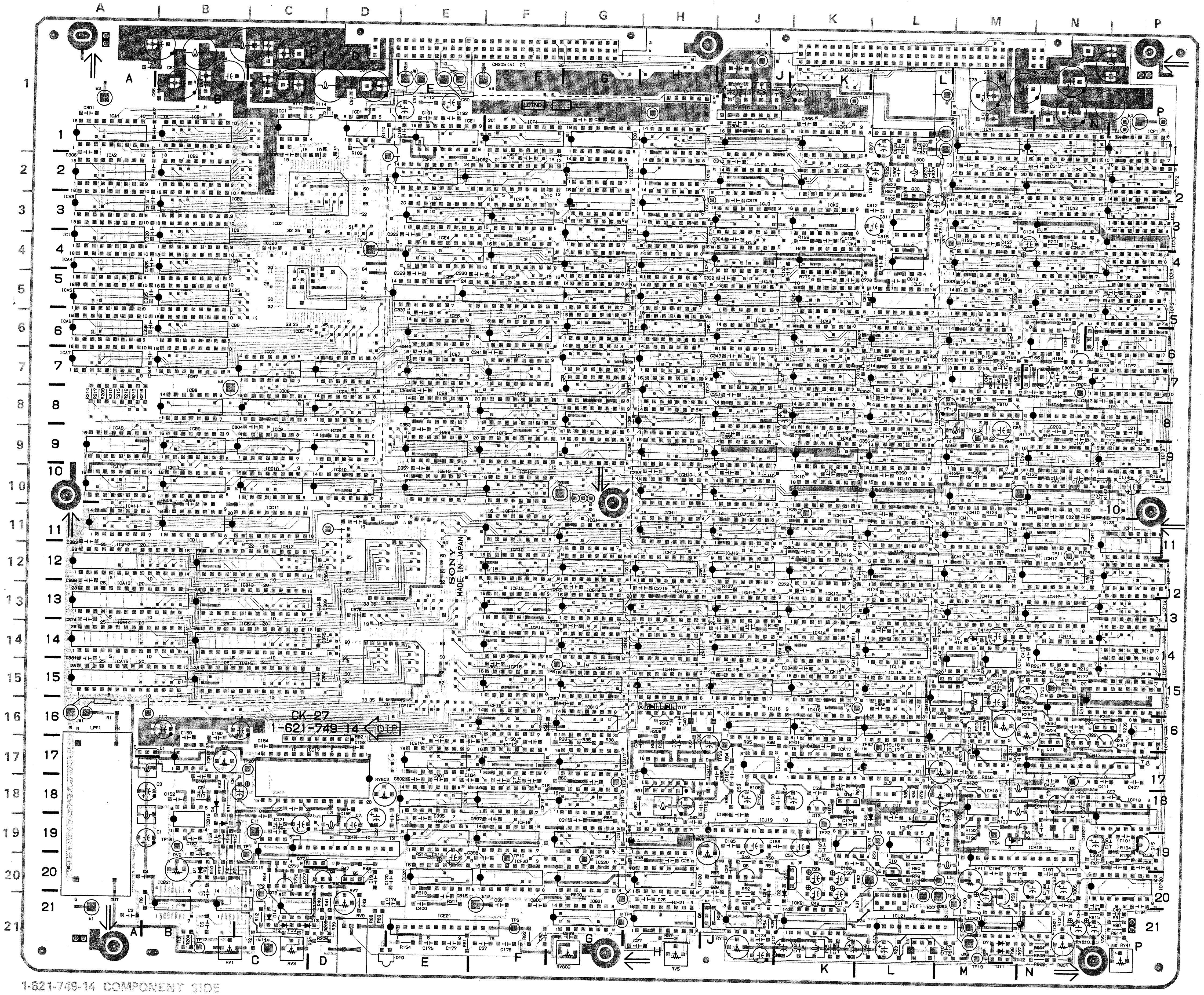

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
1-62

VCO-3 BOARD (1-623-626-11)

Component Side


VCO-3
1-623-626-11
R705
R704
R702
R706
C704
IC701
SONY
MADE IN JAPAN

1-623-626-11
COMPONENT SIDE



1-621-749-14 COMPONENT SIDE

1-621-749-14 SOLDER SIDE

CK-27 (1-621-749-14)

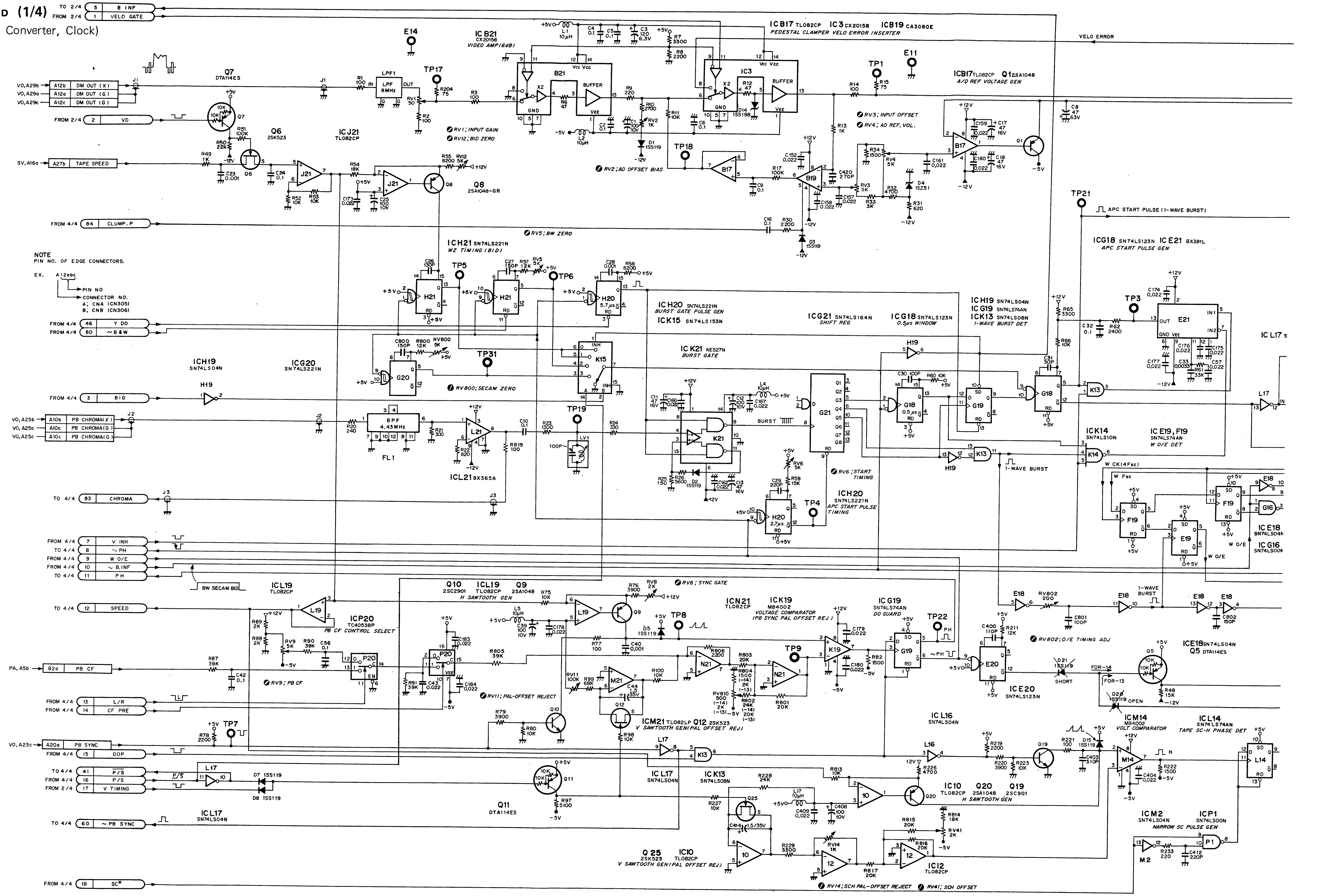
BVH-3000PS
BVH-3100PS

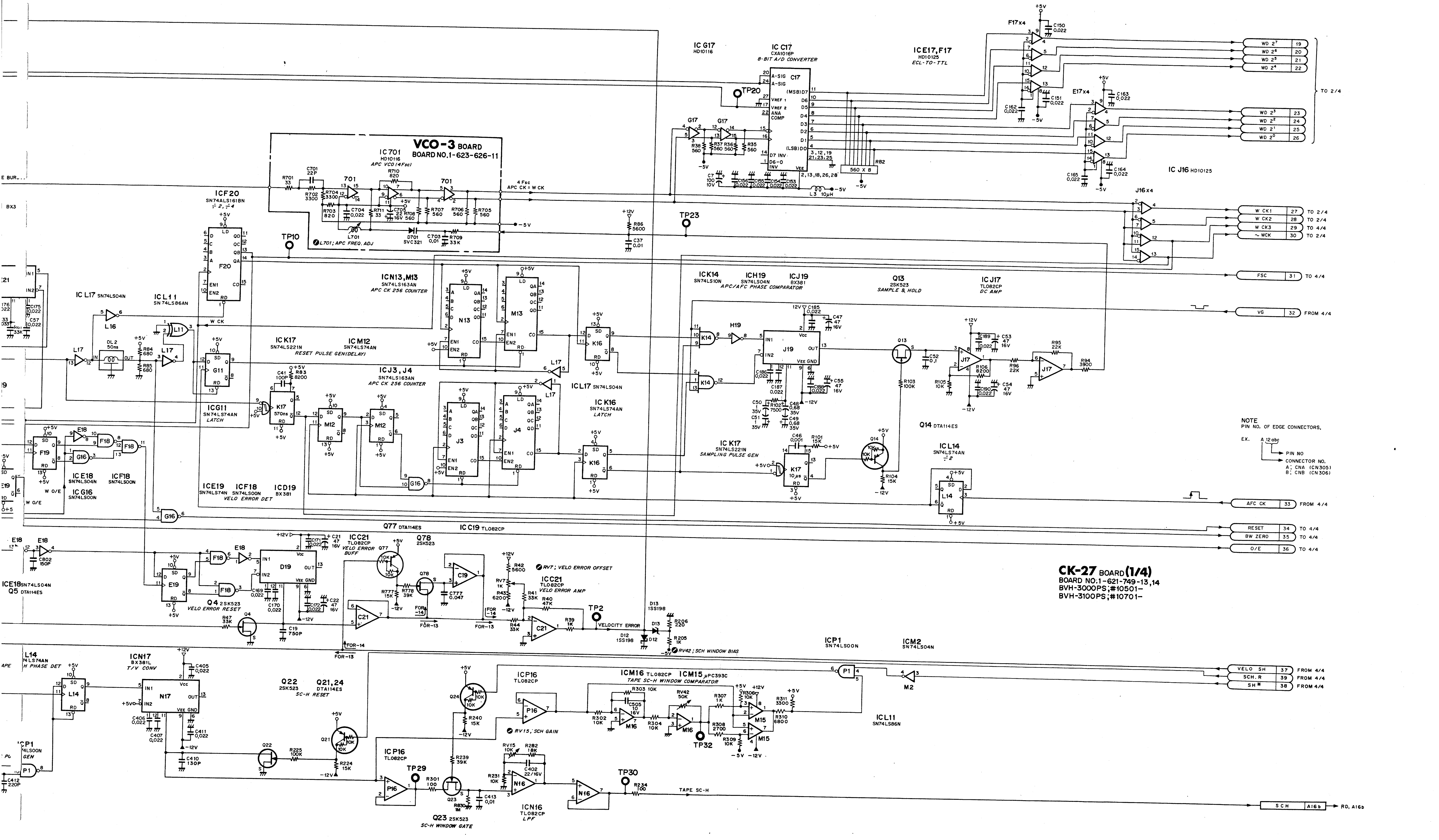
CN305(A)	F1
CN305(B)	K1
CP1	H1
D1	B20
D2	K20
D3	B19
D4	B18
D5	L18
D7	M21
D8	M21
D9	N19
D10	D21
D12	C21
D13	C21
D14	C21
D15	M14
D22	E15
DL2	L18
E1	A21
E2	A1
E3	F1
E5	P1
E7	D4
E8	B7
E9	G10
E11	C19
E12	F21
E13	L20
E14	C21
E15	M10
FL1	L20
IC1	A4
IC2	B4
IC3	B21
IC4	G3
IC5	G7
IC6	H3
IC7	H7
IC8	P14
IC10	M14
IC11	J1
LPF1	A17
LV1	L21
LV2	N18
Q1	B17
Q4	D20
Q5	D20
Q6	J20
Q7	K20
Q8	J21
Q9	L18
Q10	L20
Q11	M21
Q12	M20
Q13	K18
Q14	K18
Q15	P19
Q16	N6
Q17	N6
Q19	N15
Q20	M15
Q21	N16
Q22	N16
Q23	P16
Q24	P16
Q25	M14
Q30	L2
Q800	N7
Q801	M7
RB2	D16
RV1	B21
RV2	B20
RV3	C21
RV4	B17
RV5	H21
RV6	J19
RV7	D21
RV8	M18
RV9	D21
RV11	M20
RV12	J21
RV14	M16
RV15	N16
RV41	P21
RV42	M17
RV800	G21
RV802	D18
RV810	N21

TP1	C19
TP2	C20
TP3	F21
TP4	G21
TP5	K15
TP6	G15
TP7	M20
TP8	L19
TP9	M21
TP10	F20
TP11	N11
TP12	M8
TP14	J1
TP15	M3
TP17	B21
TP18	B19
TP19	M21
TP20	C17
TP21	G18
TP22	K19
TP23	J17
TP24	M19
TP25	K10
TP27	N7
TP29	N17
TP30	N15
TP31	G20
TP32	L17

CK-27 BOARD (1/4)

TBC (AD Converter, Clock)

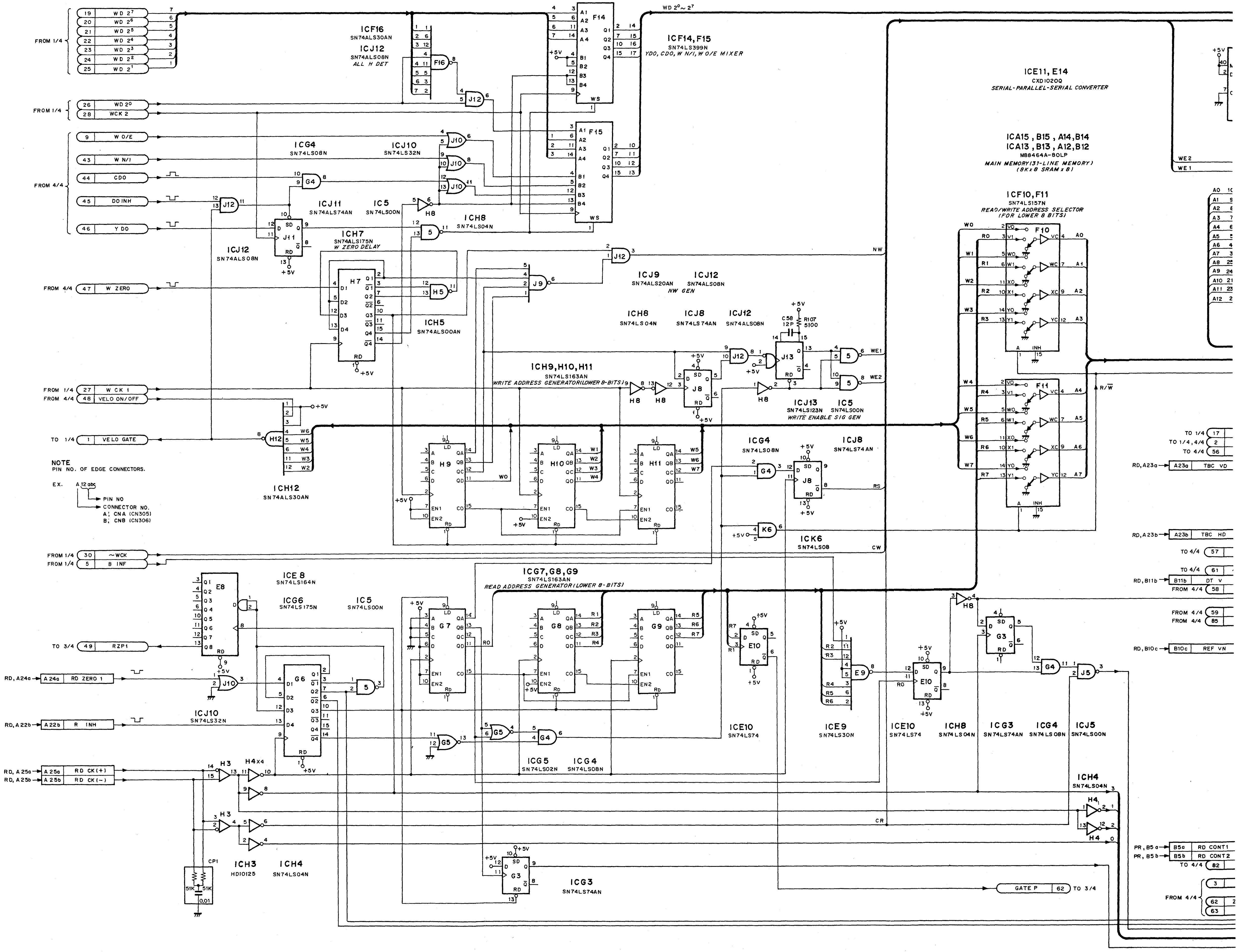

TO 2/4 5 B INF
FROM 2/4 1 VELO GATE
VO,A29b A12b DM OUT (X)
VO,A29a A12a DM OUT (G)
VO,A29c A12c DM OUT (G)
FROM 2/4 2 VD
SV,A16a A27b TAPE SPEED
FROM 4/4 84 CLUMP.P
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
FROM 4/4 46 Y DO
FROM 4/4 80 ~B&W
FROM 4/4 3 BID
VO,A25b A10b PB CHROMA(X)
VO,A25a A10a PB CHROMA(G)
VO,A25c A10c PB CHROMA(G)
TO 4/4 83 CHROMA
FROM 4/4 7 V INH
TO 4/4 8 ~PH
FROM 4/4 9 W O/E
FROM 4/4 10 ~B.INF
TO 4/4 11 PH
BW SECAM BID
TO 4/4 12 SPEED
PA,A5b B2a PB CF
FROM 4/4 13 L/R
FROM 4/4 14 CF PRE
VO,A23c A20a PB SYNC
FROM 4/4 15 DOP
TO 4/4 41 P/S
FROM 4/4 16 P/S
FROM 2/4 17 V TIMING
TO 4/4 60 ~PB SYNC
FROM 4/4 18 SC*
Q7 DTA114ES
Q6 2SK523
IC J21 TL082CP
Q8 2SA1048-GR
IC B21 CX20158 VIDEO AMP(6dB)
IC B17 TL082CP IC3 CX20158 IC B19 CA3080E
PEDESTAL CLAMPER VELO ERROR INSERTER
VELO ERROR
IC B17 TL082CP Q1 2SA1048
A/D REF VOLTAGE GEN
RV1; INPUT GAIN
RV12; BID ZERO
RV2; AD OFFSET BIAS
RV3; INPUT OFFSET
RV4; AD REF. VOL.
RV5; BW ZERO
IC H21 SN74LS221N WZ TIMING (BID)
IC H20 SN74LS221N BURST GATE PULSE GEN
IC K15 SN74LS153N
IC G21 SN74LS164N SHIFT REG
IC G18 SN74LS123N 0.5μs WINDOW
IC H19 SN74LS04N
IC G19 SN74LS74AN
IC K13 SN74LS08N 1-WAVE BURST DET
IC G18 SN74LS123N IC E21 BX381L APC START PULSE GEN
APC START PULSE (1-WAVE BURST)
IC L17 S
IC H19 SN74LS04N
IC G20 SN74LS221N
RV800; SECAM ZERO
IC K21 NE527N BURST GATE
BURST
RV6; START TIMING
IC H20 SN74LS221N APC START PULSE TIMING
IC K14 SN74LS10N
IC E19, F19 SN74LS74AN W O/E DET
W CK(4Fsc)
W Fsc
1-WAVE BURST
IC E18 SN74LS04N
IC G16 SN74LS00N
W O/E
IC L21 BX365A
FL1
BPF 4.43MHz
LPF1 LPF 8MHz
IC L19 TL082CP
IC P20 TC4053BP PB CF CONTROL SELECT
RV9; PB CF
Q10 2SC2901 IC L19 TL082CP Q9 2SA1048 H SAWTOOTH GEN
RV8; SYNC GATE
RV11; PAL-OFFSET REJECT
IC N21 TL082CP
IC K19 MB4002 VOLTAGE COMPARATOR (PB SYNC PAL OFFSET REJ)
IC G19 SN74LS74AN DO GUARD
IC M21 TL082LP Q12 2SK523 V SAWTOOTH GEN(PAL OFFSET REJ)
IC E20 SN74LS123N
RV802; O/E TIMING ADJ
IC E18 SN74LS04N Q5 DTA114ES
SHORT
OPEN
IC L16 SN74LS04N
IC M14 MB4002 VOLT COMPARATOR
IC L14 SN74LS74AN TAPE SC-H PHASE DET
IC L17 SN74LS04N
IC K13 SN74LS08N
IC10 TL082CP Q20 2SA1048 Q19 2SC901 H SAWTOOTH GEN
Q11 DTA114ES
IC L17 SN74LS04N
Q25 2SK523 IC10 TL082CP V SAWTOOTH GEN(PAL OFFSET REJ)
IC12 TL082CP
RV14; SCH PAL-OFFSET REJECT
RV41; SCH OFFSET
IC M2 SN74LS04N IC P1 SN74LS00N NARROW SC PULSE GEN
TP1 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP17 TP18 TP19 TP21 TP22 TP31
E11 E14

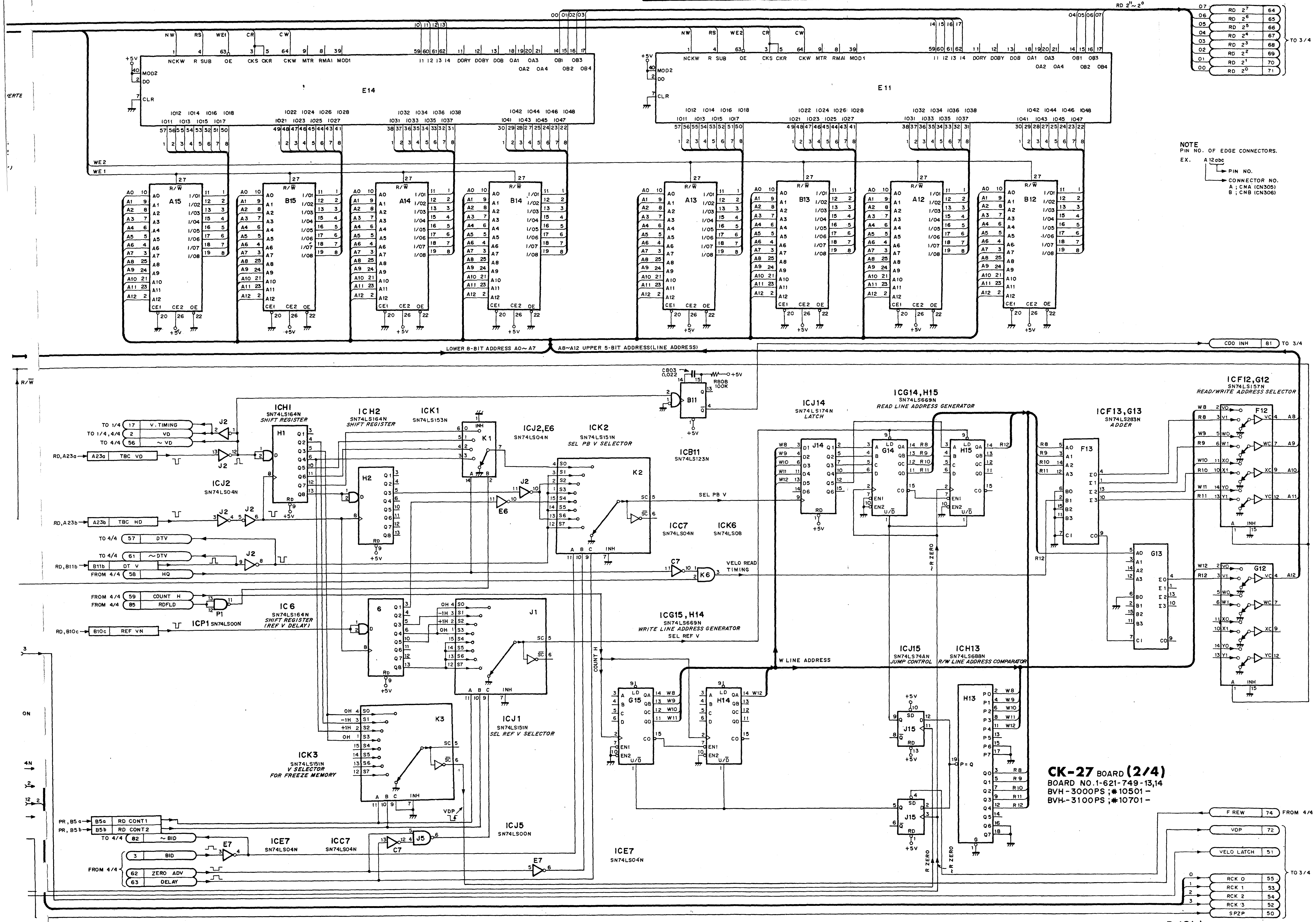

IC G17 HD10116
IC C17 CXA1016P 8-BIT A/D CONVERTER
ICE17,F17 HD10125 ECL-TO-TTL
F17x4
E17x4
TP20
IC J16 HD10125
J16x4
WD 2^7 19
WD 2^6 20
WD 2^5 21
WD 2^4 22
TO 2/4
WD 2^3 23
WD 2^2 24
WD 2^1 25
WD 2^0 26
W CK1 27 TO 2/4
W CK2 28 TO 2/4
W CK3 29 TO 4/4
~ WCK 30 TO 2/4
FSC 31 TO 4/4
VG 32 FROM 4/4
AFC CK 33 FROM 4/4
RESET 34 TO 4/4
BW ZERO 35 TO 4/4
O/E 36 TO 4/4
VELO SH 37 FROM 4/4
SCH.R 39 FROM 4/4
SH* 38 FROM 4/4
SCH A16b RD, A16b
VCO-3 BOARD
BOARD NO.1-623-626-11
IC701 HD10116 APC VCO (4Fsc)
L701; APC FREQ. ADJ
4 Fsc APC CK = W CK
TP23
TP10
ICF20 SN74ALS161BN ÷2, ÷4
ICN13,M13 SN74LS163AN APC CK 256 COUNTER
IC L17 SN74LS04N
ICL11 SN74LS86AN
IC K17 SN74LS221N
IC M12 SN74LS74AN
RESET PULSE GEN(DELAY)
ICG11 SN74LS74AN LATCH
ICJ3, J4 SN74LS163AN APC CK 256 COUNTER
ICL17 SN74LS04N
IC K16 SN74LS74AN LATCH
ICK14 SN74LS10N
ICH19 SN74LS04N
ICJ19 BX381
APC/AFC PHASE COMPARATOR
Q13 2SK523 SAMPLE & HOLD
IC J17 TL082CP DC AMP
IC K17 SN74LS221N SAMPLING PULSE GEN
Q14 DTA114ES
ICL14 SN74LS74AN ÷2
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
IC E18 SN74LS04N
ICF18 SN74LS00N
IC G16 SN74LS00N
ICE19 SN74LS74N
ICF18 SN74LS00N
ICD19 BX381
VELO ERROR DET
Q77 DTA114ES
IC C19 TL082CP
ICC21 TL082CP VELO ERROR BUFF
Q78 2SK523
ICE18 SN74LS04N
Q5 DTA114ES
Q4 2SK523 VELO ERROR RESET
RV7; VELO ERROR OFFSET
ICC21 TL082CP VELO ERROR AMP
TP2
VELOCITY ERROR
D13 1SS198
D12 1SS198
RV42; SCH WINDOW BIAS
FOR-13
FOR-14
L14 74LS74AN H PHASE DET
ICN17 BX381L T/V CONV
Q22 2SK523
Q21,24 DTA114ES
SC-H RESET
ICP16 TL082CP
RV15; SCH GAIN
ICM16 TL082CP
ICM15 μPC393C
TAPE SC-H WINDOW COMPARATOR
TP32
ICP1 SN74LS00N
ICM2 SN74LS04N
ICL11 SN74LS86N
ICP1 74LS00N GEN
ICP16 TL082CP
TP29
Q23 2SK523 SC-H WINDOW GATE
ICN16 TL082CP LPF
TP30
TAPE SC-H

CK-27 BOARD**(1/4)**
BOARD NO.1-621-749-13,14
BVH-3000PS;#10501-
BVH-3100PS;#10701-

CK-27 BOARD (2/4)

TBC (AD Converter, Clock)

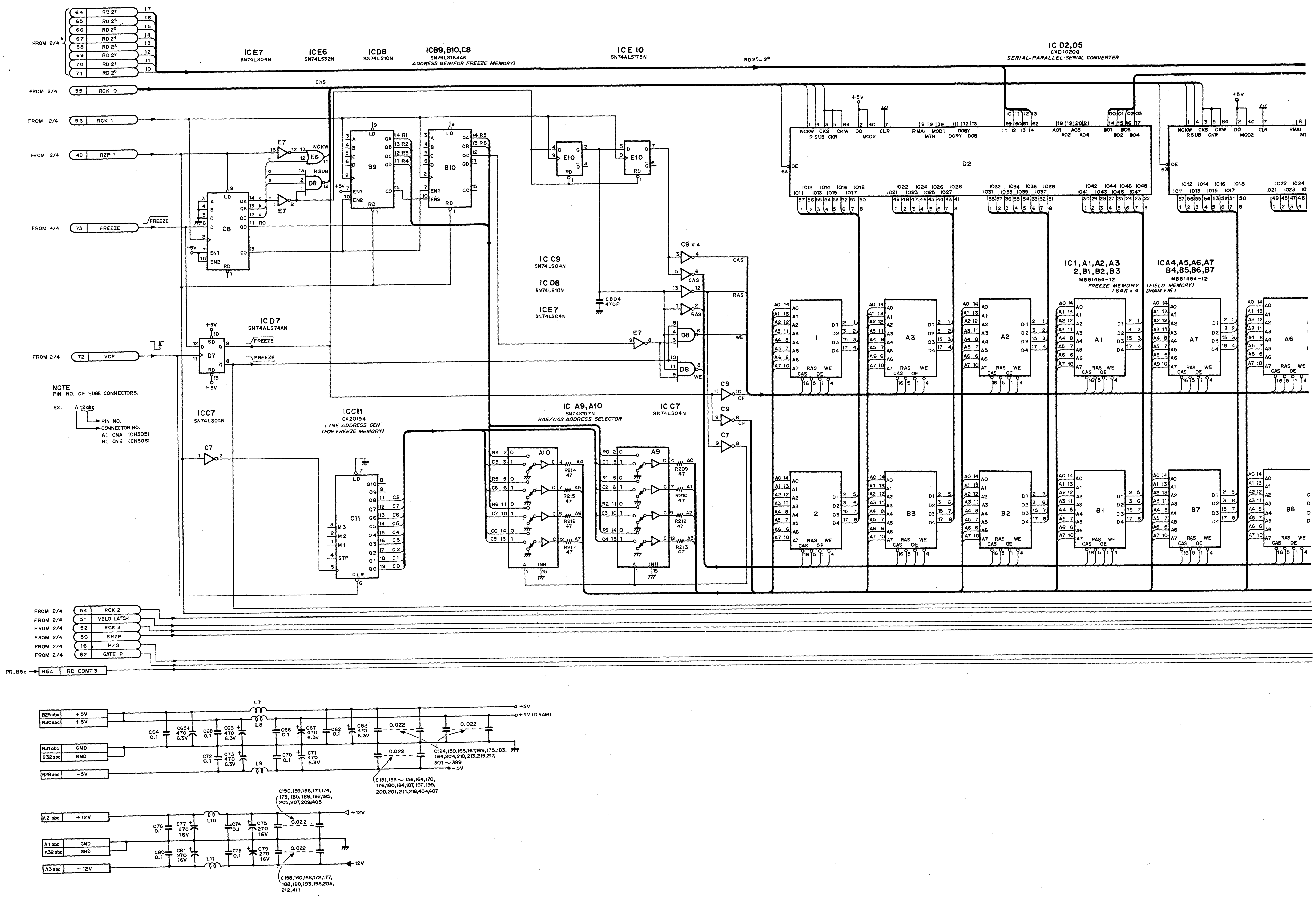

FROM 1/4
WD 2⁷
WD 2⁶
WD 2⁵
WD 2⁴
WD 2³
WD 2²
WD 2¹
WD 2⁰
WCK 2
FROM 4/4
W O/E
W N/I
CDO
DO INH
Y DO
W ZERO
W CK 1
VELO ON/OFF
TO 1/4
VELO GATE
ICF16 SN74ALS30AN
ICJ12 SN74ALS08N ALL H DET
ICF14, F15 SN74LS399N YDO, CDO, W N/I, W O/E MIXER
WD 2⁰ ~ 2⁷
ICE11, E14 CXD1020Q SERIAL-PARALLEL-SERIAL CONVERTER
ICA15, B15, A14, B14 ICA13, B13, A12, B12 MB8464A-80LP MAIN MEMORY (3-LINE MEMORY) (8K×8 SRAM×8)
ICF10, F11 SN74LS157N READ/WRITE ADDRESS SELECTOR (FOR LOWER 8 BITS)
ICG4 SN74LS08N
ICJ10 SN74LS32N
ICJ11 SN74LS74AN
IC5 SN74LS00N
ICH8 SN74LS04N
ICH7 SN74LS175N W ZERO DELAY
ICJ12 SN74ALS08N
ICH5 SN74LS00AN
ICJ9 SN74LS20AN
ICJ12 SN74ALS08N NW GEN
ICH8 SN74LS04N
ICJ8 SN74LS74AN
ICJ12 SN74ALS08N
C58 12P
R107 5100
ICH9, H10, H11 SN74LS163AN WRITE ADDRESS GENERATOR (LOWER 8-BITS)
ICJ13 SN74LS123N
IC5 SN74LS00N WRITE ENABLE SIG GEN
WE1
WE2
R/W̄
ICH12 SN74ALS30AN
ICG4 SN74LS08N
ICJ8 SN74LS74AN
ICK6 SN74LS08
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12 abc
PIN NO
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
FROM 1/4 ~WCK
FROM 1/4 B INF
ICE8 SN74LS164N
ICG6 SN74LS175N
IC5 SN74LS00N
TO 3/4 RZP1
RD, A24a RD ZERO 1
RD, A22b R INH
ICJ10 SN74LS32N
RD, A25a RD CK(+)
RD, A25b RD CK(−)
ICG7, G8, G9 SN74LS163AN READ ADDRESS GENERATOR (LOWER 8-BITS)
ICG5 SN74LS02N
ICG4 SN74LS08N
ICE10 SN74LS74
ICE9 SN74LS30N
ICE10 SN74LS74
ICH8 SN74LS04N
ICG3 SN74LS74AN
ICG4 SN74LS08N
ICJ5 SN74LS00N
ICH3 HD10125
ICH4 SN74LS04N
CP1
51K
51K
0.01
ICG3 SN74LS74AN
GATE P
TO 3/4
ICH4 SN74LS04N
RD, A23a TBC VD
RD, A23b TBC HD
RD, B11b DT V
RD, B10c REF VN
PR, B5a RD CONT1
PR, B5b RD CONT2
TO 4/4
FROM 4/4
NW
RS
CW
CR
WE2
WE1

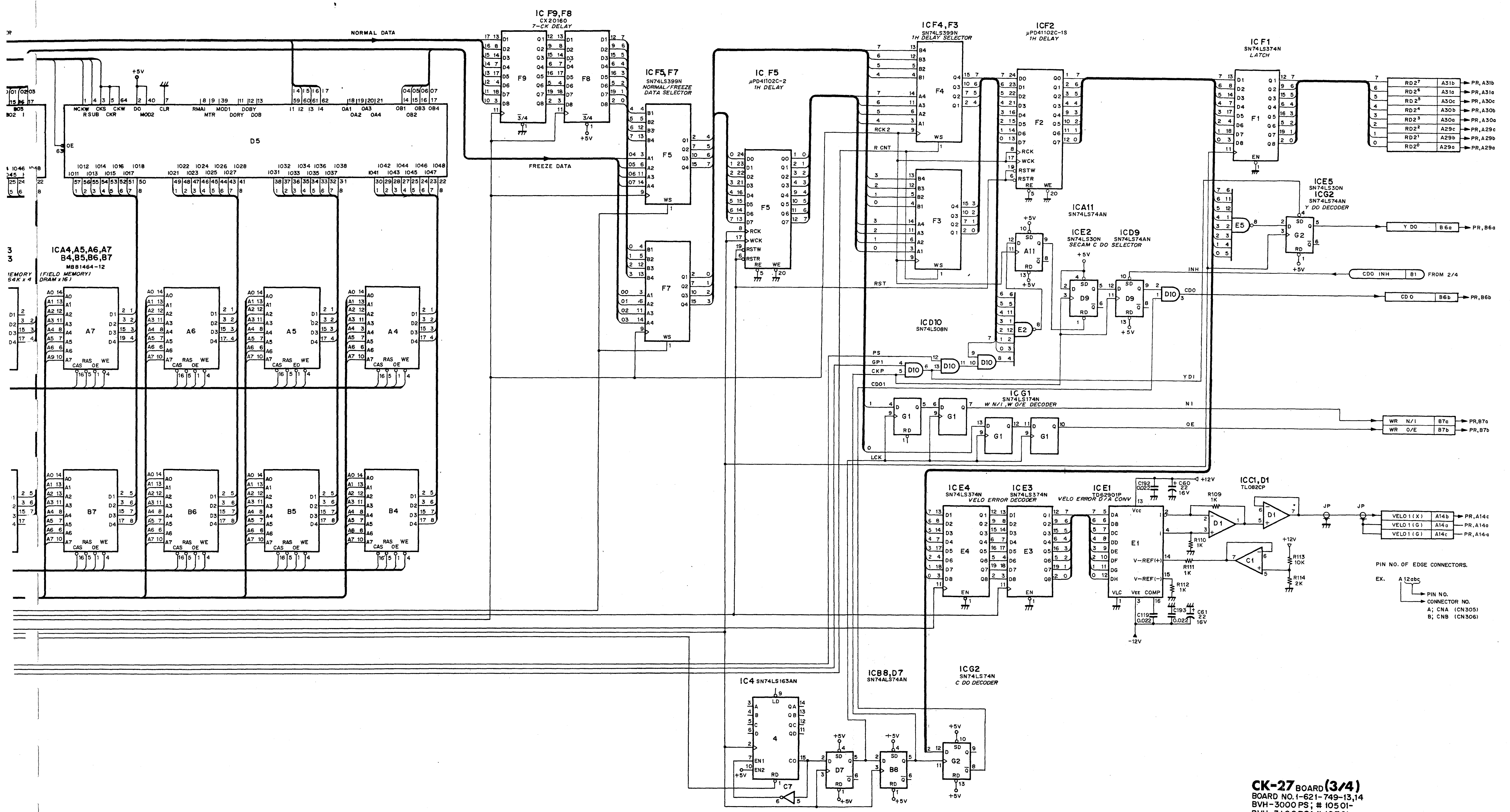

E14
E11
A15
B15
A14
B14
A13
B13
A12
B12
LOWER 8-BIT ADDRESS A0~A7
A8~A12 UPPER 5-BIT ADDRESS(LINE ADDRESS)
RD 2¹¹~2⁰
RD 2⁷
RD 2⁶
RD 2⁵
RD 2⁴
RD 2³
RD 2²
RD 2¹
RD 2⁰
TO 3/4
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A ; CNA (CN305)
B ; CNB (CN306)
ICH1
SN74LS164N
SHIFT REGISTER
ICH2
SN74LS164N
SHIFT REGISTER
ICK1
SN74LS153N
ICJ2,E6
SN74LS04N
ICK2
SN74LS151N
SEL PB V SELECTOR
ICB11
SN74LS123N
ICJ14
SN74LS174N
LATCH
ICG14,H15
SN74LS669N
READ LINE ADDRESS GENERATOR
ICF13,G13
SN74LS283N
ADDER
ICF12,G12
SN74LS157N
READ/WRITE ADDRESS SELECTOR
ICJ2
SN74LS04N
ICC7
SN74LS04N
ICK6
SN74LS08
SEL PB V
VELO READ TIMING
IC6
SN74LS164N
SHIFT REGISTER
(REF V DELAY)
ICP1 SN74LS00N
ICG15,H14
SN74LS669N
WRITE LINE ADDRESS GENERATOR
SEL REF V
W LINE ADDRESS
ICJ15
SN74LS74AN
JUMP CONTROL
ICH13
SN74LS688N
R/W LINE ADDRESS COMPARATOR
ICJ1
SN74LS151N
SEL REF V SELECTOR
ICK3
SN74LS151N
V SELECTOR
FOR FREEZE MEMORY
ICJ5
SN74LS00N
ICE7
SN74LS04N
ICC7
SN74LS04N
ICE7
SN74LS04N
COUNT H
R ZERO
V.TIMING
VD
~VD
TBC VD
TBC HD
DTV
~DTV
DT V
HQ
COUNT H
RDFLD
REF VN
RD CONT1
RD CONT2
~BID
BID
ZERO ADV
DELAY
CDO INH
F REW
VDP
VELO LATCH
RCK 0
RCK 1
RCK 2
RCK 3
SPZP
FROM 4/4
TO 1/4
TO 4/4
C803 0.022
R808 100K

CK-27 BOARD **(2/4)**
BOARD NO.1-621-749-13,14
BVH-3000PS ;#10501-
BVH-3100PS ;#10701-

CK-27 BOARD (3/4)

TBC (AD Converter, Clock)

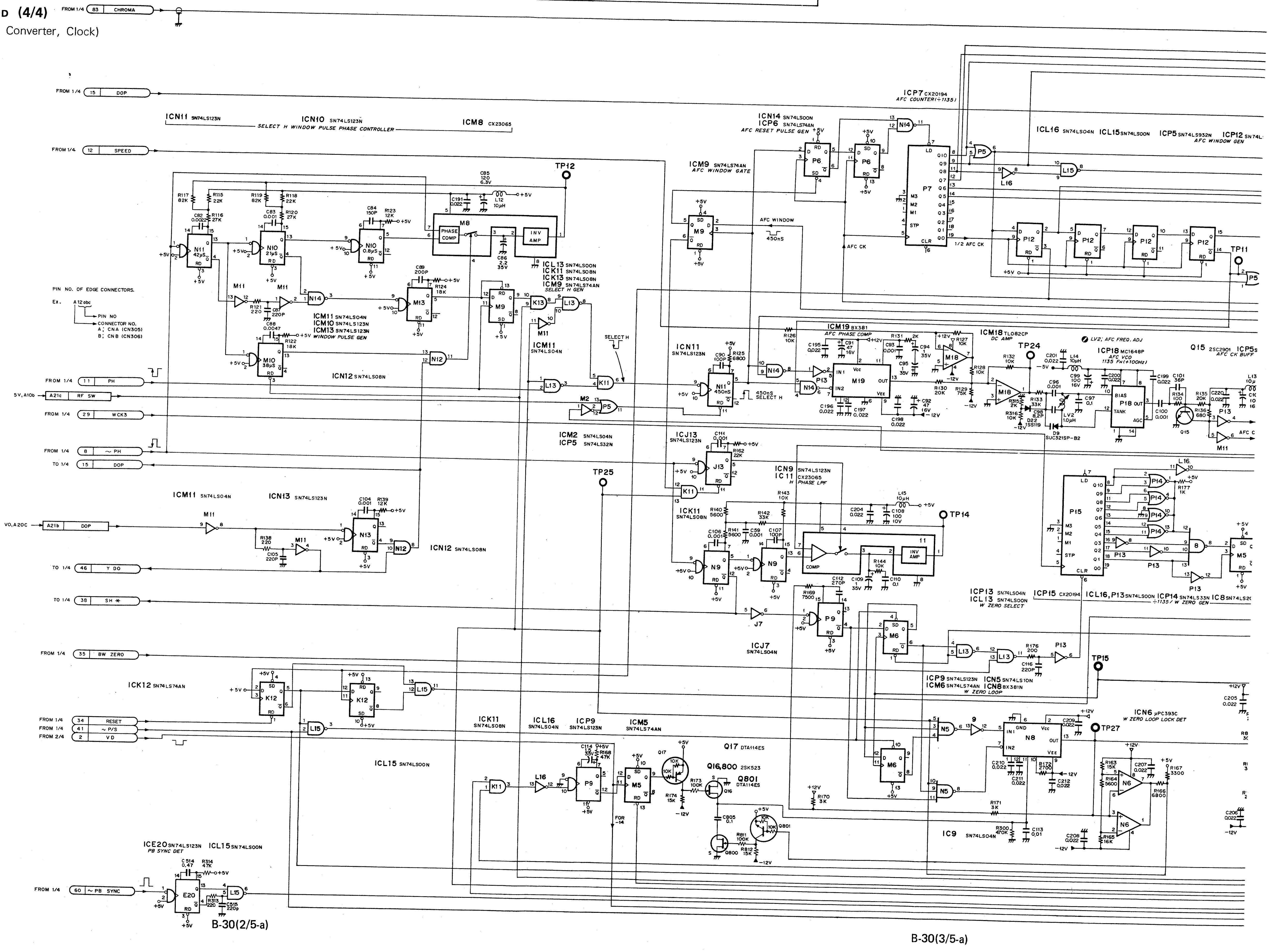

FROM 2/4
RD 2⁷ ~ RD 2⁰
RCK 0
RCK 1
RZP 1
FROM 4/4
FREEZE
VDP
CKS
IC E7 SN74LS04N
IC E6 SN74LS32N
IC D8 SN74LS10N
IC B9, B10, C8 SN74LS163AN ADDRESS GEN (FOR FREEZE MEMORY)
IC E10 SN74ALS175N
RD 2⁷ ~ 2⁰
IC D2, D5 CXD10200 SERIAL-PARALLEL-SERIAL CONVERTER
IC C9 SN74LS04N
IC D8 SN74LS10N
IC E7 SN74LS04N
IC D7 SN74ALS74AN
IC C7 SN74LS04N
IC C11 CX20194 LINE ADDRESS GEN (FOR FREEZE MEMORY)
IC A9, A10 SN74S157N RAS/CAS ADDRESS SELECTOR
IC C7 SN74LS04N
IC 1, A1, A2, A3, 2, B1, B2, B3 MB81464-12 FREEZE MEMORY (64K x 4)
IC A4, A5, A6, A7, B4, B5, B6, B7 MB81464-12 (FIELD MEMORY) DRAM x 16
C9 x 4
CAS
RAS
WE
CE
C804 470P
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)
RCK 2
VELO LATCH
RCK 3
SRZP
P/S
GATE P
PR, B5c
RD CONT 3
+5V
+5V (D RAM)
GND
-5V
+12V
-12V
L7 L8 L9 L10 L11
C124,150,163,167,169,175,183, 194,204,210,213,215,217, 301~399
C151,153~156,164,170, 176,180,184,187,197,199, 200,201,211,218,404,407
C150,159,166,171,174, 179,185,189,192,195, 205,207,209,405
C158,160,168,172,177, 188,190,193,198,208, 212,411


NORMAL DATA
FREEZE DATA
IC F9,F8
CX20160
7-CK DELAY
F9
F8
D5
IC F5,F7
SN74LS399N
NORMAL/FREEZE DATA SELECTOR
F5
F7
IC F5
μPD41102C-2
1H DELAY
ICF4,F3
SN74LS399N
1H DELAY SELECTOR
F4
F3
ICF2
μPD41102C-15
1H DELAY
F2
IC F1
SN74LS374N
LATCH
F1
ICA4,A5,A6,A7
B4,B5,B6,B7
MB81464-12
(FIELD MEMORY)
DRAM x16
A7
A6
A5
A4
B7
B6
B5
B4
ICA11
SN74LS74AN
ICE2
SN74LS30N
SECAM C DO SELECTOR
ICD9
SN74LS74AN
ICE5
SN74LS30N
ICG2
SN74LS74AN
Y DO DECODER
ICD10
SN74LS08N
IC G1
SN74LS174N
W N/1, W O/E DECODER
ICE4
SN74LS374N
VELO ERROR DECODER
ICE3
SN74LS374N
ICE1
TD62901P
VELO ERROR D/A CONV
ICC1,D1
TL082CP
IC4 SN74LS163AN
ICB8,D7
SN74ALS74AN
ICG2
SN74LS74N
C DO DECODER
RD2⁷ A31b PR,A31b
RD2⁶ A31a PR,A31a
RD2⁵ A30c PR,A30c
RD2⁴ A30b PR,A30b
RD2³ A30a PR,A30a
RD2² A29c PR,A29c
RD2¹ A29b PR,A29b
RD2⁰ A29a PR,A29a
Y DO B6a PR,B6a
CDO INH B1 FROM 2/4
CD O B6b PR,B6b
WR N/1 B7a PR,B7a
WR O/E B7b PR,B7b
VELO 1 (X) A14b PR,A14c
VELO 1 (G) A14a PR,A14a
VELO 1 (G) A14c PR,A14a
+5V
+12V
-12V
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN305)
B; CNB (CN306)

CK-27 BOARD **(3/4)**
BOARD NO. 1-621-749-13,14
BVH-3000PS; # 10501-
BVH-3100PS; # 10701-

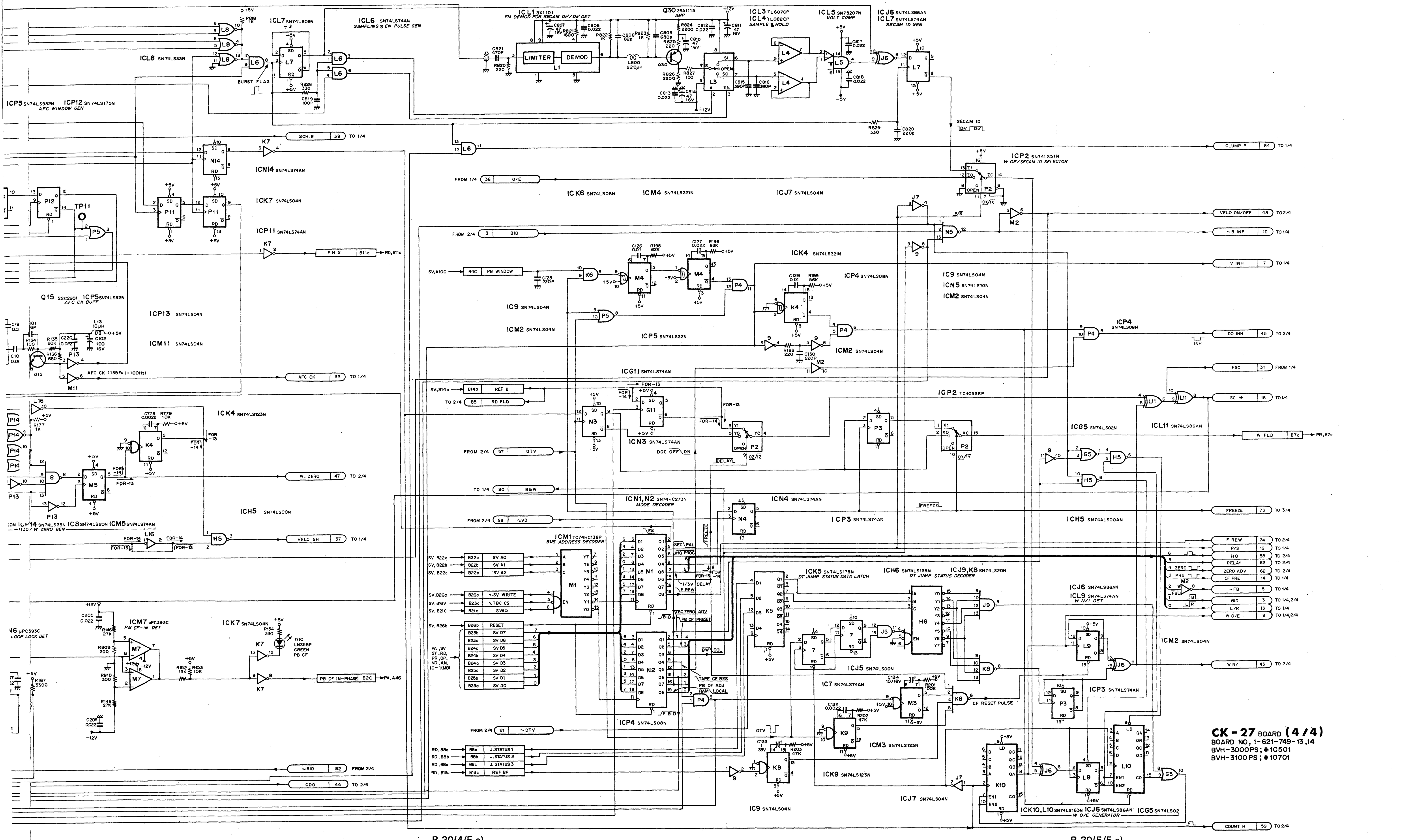
CK-27 BOARD (4/4)

TBC (AD Converter, Clock)


FROM 1/4 83 CHROMA
FROM 1/4 15 DOP
FROM 1/4 12 SPEED
ICN11 SN74LS123N
ICN10 SN74LS123N
SELECT H WINDOW PULSE PHASE CONTROLLER
ICM8 CX23065
TP12
PHASE COMP
INV AMP
ICL13 SN74LS00N
ICK11 SN74LS08N
ICK13 SN74LS08N
ICM9 SN74LS74AN
SELECT H GEN
ICM11 SN74LS04N
ICM10 SN74LS123N
ICM13 SN74LS123N
WINDOW PULSE GEN
ICN12 SN74LS08N
PIN NO. OF EDGE CONNECTORS.
Ex. A12abc
PIN NO
CONNECTOR NO.
A ; CNA (CN305)
B ; CNB (CN306)
FROM 1/4 11 PH
5V,A10b A21c RF SW
FROM 1/4 29 WCK3
FROM 1/4 8 ~PH
TO 1/4 15 DOP
ICM2 SN74LS04N
ICP5 SN74LS32N
SELECT H
TP25
ICM11 SN74LS04N
ICN13 SN74LS123N
V0,A20C A21b DOP
ICN12 SN74LS08N
TO 1/4 46 Y DO
TO 1/4 38 SH *
FROM 1/4 35 BW ZERO
ICK12 SN74LS74AN
FROM 1/4 34 RESET
FROM 1/4 41 ~P/S
FROM 2/4 2 VD
ICL15 SN74LS00N
ICK11 SN74LS08N
ICL16 SN74LS04N
ICP9 SN74LS123N
ICM5 SN74LS74AN
Q17 DTA114ES
Q16,800 2SK523
Q801 DTA114ES
ICE20 SN74LS123N ICL15 SN74LS00N
PB SYNC DET
FROM 1/4 60 ~PB SYNC
ICP7 CX20194
AFC COUNTER(÷1135)
ICN14 SN74LS00N
ICP6 SN74LS74AN
AFC RESET PULSE GEN
ICL16 SN74LS04N ICL15 SN74LS00N ICP5 SN74LS932N ICP12 SN74L
AFC WINDOW GEN
ICM9 SN74LS74AN
AFC WINDOW GATE
AFC WINDOW
450nS
AFC CK
1/2 AFC CK
TP11
ICN11 SN74LS123N
ICM19 BX381
AFC PHASE COMP
ICM18 TL082CP
DC AMP
TP24
LV2; AFC FREQ. ADJ
ICP18 MC1648P
AFC VCO
1135 FH(+100Hz)
Q15 2SC2901
ICP5 AFC CK BUFF
450nS SELECT H
ICJ13 SN74LS123N
ICN9 SN74LS123N
IC11 CX23065
H PHASE LPF
ICK11 SN74LS08N
TP14
COMP
INV AMP
ICJ7 SN74LS04N
ICP13 SN74LS04N
ICL13 SN74LS00N
W ZERO SELECT
ICP15 CX20194
ICL16,P13 SN74LS00N
ICP14 SN74LS33N
÷1135/ W ZERO GEN
IC8 SN74LS2
ICP9 SN74LS123N
ICM6 SN74LS74AN
ICN5 SN74LS10N
ICN8 BX381N
W ZERO LOOP
TP15
ICN6 μPC393C
W ZERO LOOP LOCK DET
TP27
IC9 SN74LS04N

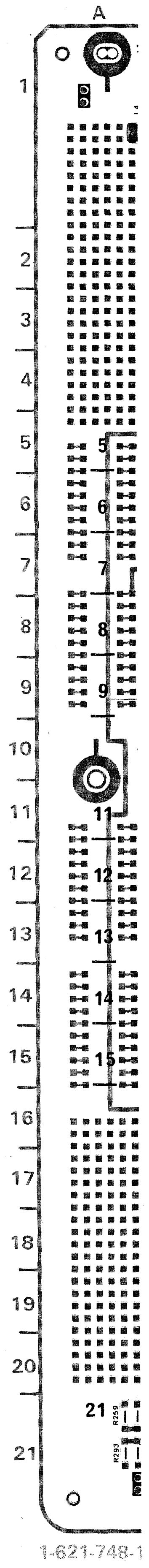
B-30(2/5-a)

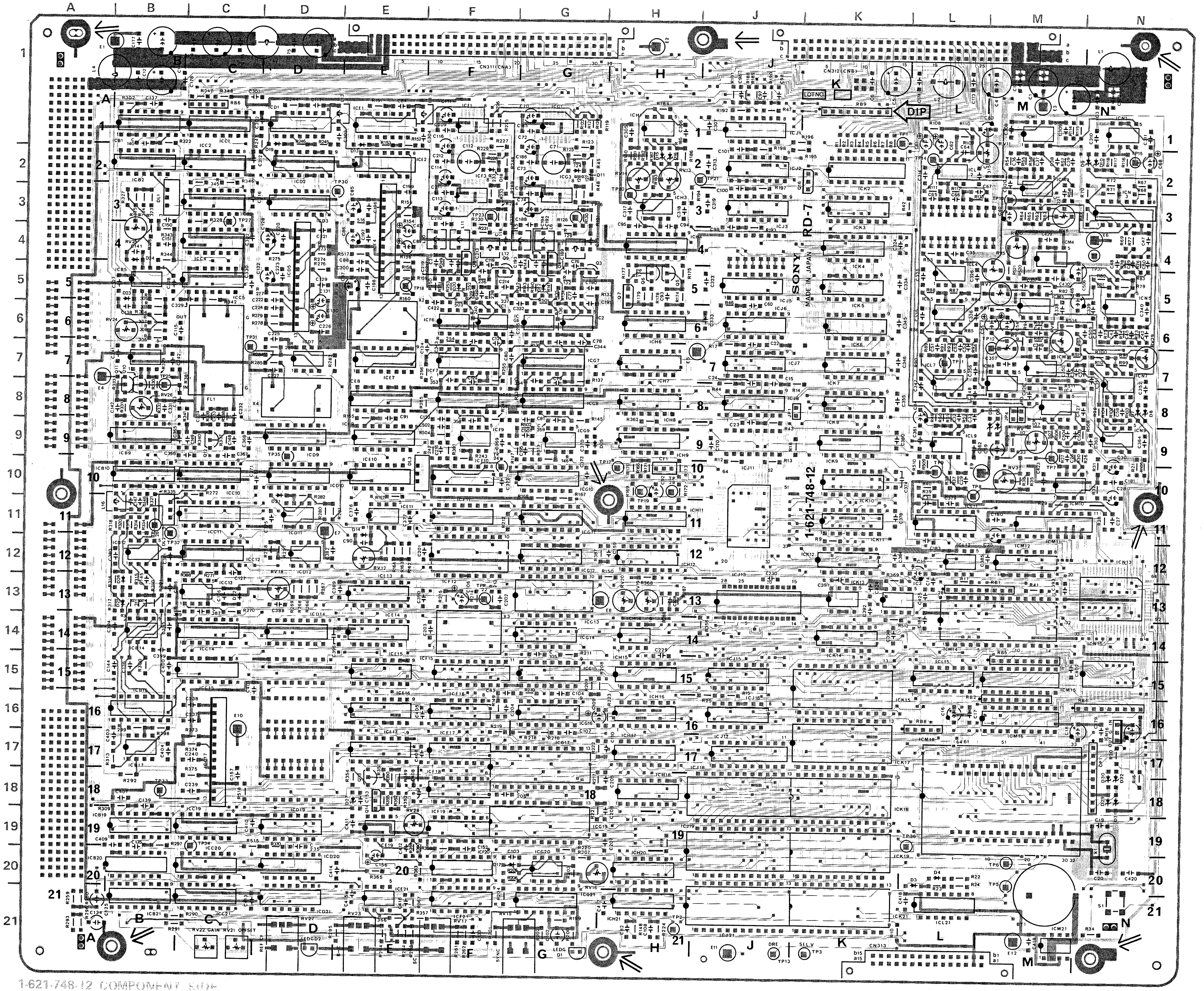
B-30(3/5-a)


ICL1 BX1101 FM DEMOD FOR SECAM DR'/DB' DET
LIMITER
DEMOD
L1
Q30 2SA1115 AMP
ICL3 TL607CP
ICL4 TL082CP SAMPLE & HOLD
ICL5 SN75207N VOLT COMP
ICJ6 SN74LS86AN
ICL7 SN74LS74AN SECAM ID GEN
ICL7 SN74LS08N ÷2
ICL6 SN74LS74AN SAMPLING & EN PULSE GEN
ICL8 SN74LS33N
BURST FLAG
ICP5 SN74LS932N ICP12 SN74LS175N AFC WINDOW GEN
SCH.R 39 TO 1/4
ICN14 SN74LS74AN
ICK7 SN74LS04N
ICP11 SN74LS74AN
F H X B11c RD,B11c
TP11
SECAM ID
CLUMP.P 84 TO 1/4
ICP2 SN74LS51N W OE/SECAM ID SELECTOR
FROM 1/4 36 O/E
ICK6 SN74LS08N
ICM4 SN74LS221N
ICJ7 SN74LS04N
VELO ON/OFF 48 TO 2/4
FROM 2/4 3 BID
~B INF 10 TO 1/4
V INH 7 TO 1/4
SV,A10C B4C PB WINDOW
ICK4 SN74LS221N
ICP4 SN74LS08N
IC9 SN74LS04N
ICN5 SN74LS10N
ICM2 SN74LS04N
Q15 2SC2901 ICP5 SN74LS32N AFC CK BUFF
ICP13 SN74LS04N
ICM11 SN74LS04N
ICP5 SN74LS32N
ICP4 SN74LS08N
DO INH 45 TO 2/4
AFC CK 1135FH(+100Hz)
AFC CK 33 TO 1/4
ICG11 SN74LS74AN
FSC 31 FROM 1/4
SV,B14a B14a REF 2
TO 2/4 B5 RD FLD
ICP2 TC4053BP
SC * 18 TO 1/4
ICK4 SN74LS123N
ICN3 SN74LS74AN
ICG5 SN74LS02N
ICL11 SN74LS86AN
W FLD B7c PR,B7c
FROM 2/4 57 DTV
DOC OFF ON
DELAY
W. ZERO 47 TO 2/4
TO 1/4 80 B&W
ICN1,N2 SN74HC273N MODE DECODER
ICN4 SN74LS74AN
FREEZE
ICH5 SN74LS00N
ICP3 SN74LS74AN
ICH5 SN74ALS00AN
FREEZE 73 TO 3/4
ICP14 SN74LS33N IC8 SN74LS20N ICM5 SN74LS74AN ÷1135/W ZERO GEN
FROM 2/4 56 ~VD
VELO SH 37 TO 1/4
ICM1 TC74HC138P BUS ADDRESS DECODER
SV,B22a B22a SV A0
SV,B22b B22b SV A1
SV,B22c B22c SV A2
SV,B26a B26a ~SV WRITE
SV,B16V B23c ~TBC CS
SV,B21C B21c SVA5
SV,B26b B26b RESET
B23b SV D7
B23a SV D6
B24c SV D5
B24b SV D4
B24a SV D3
B25c SV D2
B25b SV D1
B25a SV D0
PA,SV SY,RD, PR,OP, VO,AN, IC-1(MB)
SEC PAL
HQ PROC
1/3V DELAY
F REW
TBC ZERO ADV
PB CF PRESET
BW COL
TAPE CF RES
PB CF ADJ
RAM LOCAL
F BID
ICK5 SN74LS175N DT JUMP STATUS DATA LATCH
ICH6 SN74LS138N DT JUMP STATUS DECODER
ICJ9,K8 SN74LS20N
F REW 74 TO 2/4
P/S 16 TO 1/4
HQ 58 TO 2/4
DELAY 63 TO 2/4
ZERO ADV 62 TO 2/4
CF PRE 14 TO 1/4
~FB 5 TO 1/4
BID 3 TO 1/4,2/4
L/R 3 TO 1/4
W O/E 9 TO 1/4,2/4
ICJ6 SN74LS86AN
ICL9 SN74LS74AN W N/I DET
ICM2 SN74LS04N
W N/I 43 TO 2/4
ICJ5 SN74LS00N
ICM7 μPC393C PB CF-IN DET
μPC393C LOOP LOCK DET
ICK7 SN74LS04N
D10 LN35BP GREEN PB CF
PB CF IN-PHASE B2C PA,A46
IC7 SN74LS74AN
ICM3 SN74LS123N
CF RESET PULSE
ICP3 SN74LS74AN
ICP4 SN74LS08N
FROM 2/4 61 ~DTV
DTV
RD,B8a 88a J.STATUS 1
RD,B8b 88b J.STATUS 2
RD,B8c 88c J.STATUS 3
RD,B13c B13c REF BF
~BID 82 FROM 2/4
CDO 44 TO 2/4
ICK9 SN74LS123N
IC9 SN74LS04N
ICJ7 SN74LS04N
ICK10,L10 SN74LS163N ICJ6 SN74LS86AN W O/E GENERATOR
ICG5 SN74LS02
COUNT H 59 TO 2/4

CK-27 BOARD **(4/4)**
BOARD NO, 1-621-749-13,14
BVH-3000PS ; #10501
BVH-3100PS ; #10701

RD-7 BOARD (1-621-748-12)
Component Side


A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
1-621-748-1


A
B
C
D
E
F
G
H
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
CN311 (CNA)
CN312 (CNB)
CN313
DIP
LOT NO.
RD-7
SONY
MADE IN JAPAN
1-621-748-12
RV22 GAIN
RV21 OFFSET
SYNC
LEDG
D1
b
a
b15
a15
b1
a1

1-621-748-12 COMPONENT SIDE

1-621-748-12 SOLDER SIDE

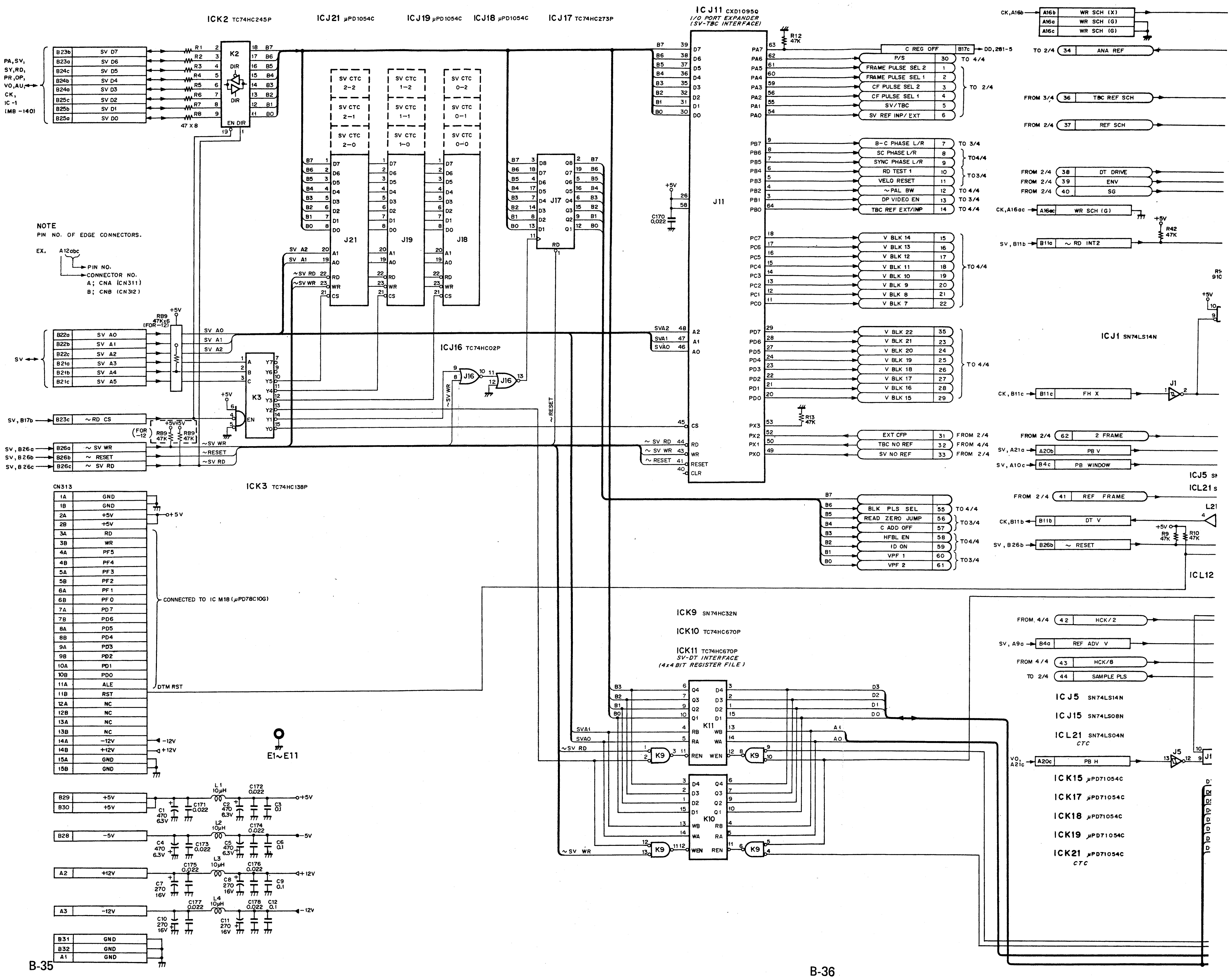
RD-7 (1-621-748-12)

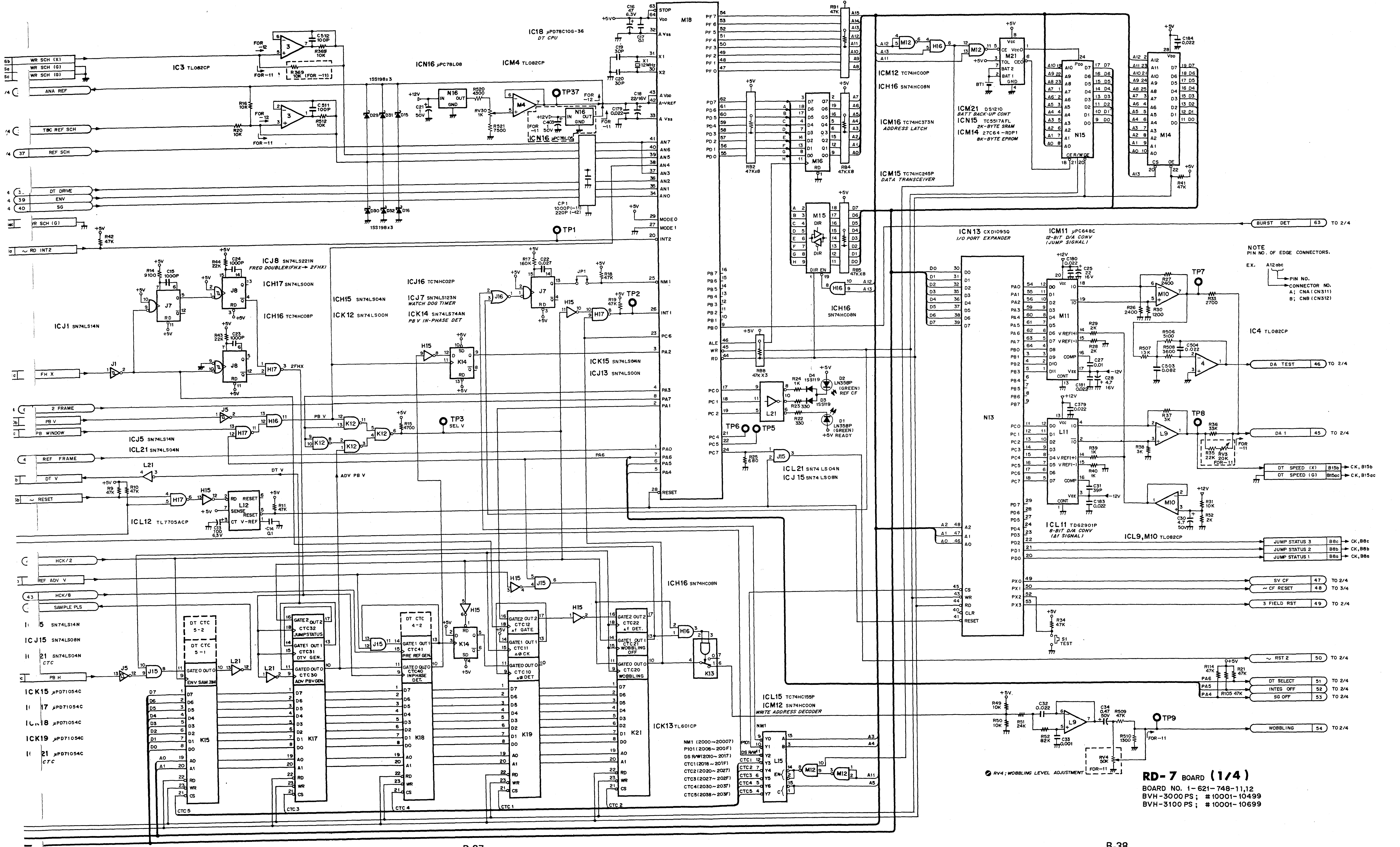
BVH-3000PS
BVH-3100PS

BT1	M21
CF1	H10
CN311	F1
CN312	K1
CN313	L21
CP1	N17
D1	G21
D2	D21
D3	L20
D4	L20
D5	M9
D6	M9
D7	N8
D8	N8
D9	M2
D10	N2
D11	G2
D12	G5
D14	E11
D15	H2
D16	H2
D17	G20
D18	F2
D19	D2
D20	F5
D21	D11
D22	C13
D23	B5
D24	B5
D25	B13
D26	B13
D27	E18
D29	N18
D30	N18
D31	N18
D32	N18
D35	G9
DL1	B3
DL2	B11
DL3	E10
E1	A1
E2	H1
E3	M1
E4	A8
E5	J7
E7	D11
E8	G13
E9	L10
E10	C16
E11	J21
E12	M21
FL1	C8
IC1	F6
IC2	G6
JP1	J8
JP3	M8
JP4	M8
Q3	G5
Q4	G5
Q5	H5
Q6	H5
Q7	H5
Q8	F5
Q9	F5
Q10	B8
Q11	B8
Q12	C9
Q13	E18
Q14	E18
Q16	K2
RB1	L13
RB2	M15
RB4	N16
RB5	M14
RB6	C1
RB8	L16
RV3	M10
RV5	M4
RV6	M3
RV7	M5
RV8	M6
RV9	M7
RV10	M9
RV11	L2
RV12	E12
RV13	H2
RV14	H2
RV15	G21
RV16	G20
RV17	F21
RV18	D13
RV19	H13
RV20	H13
RV21	C21
RV22	C21
RV23	E21
RV24	B6
RV25	B4
RV26	B8
RV27	D21
RV28	E19
RV29	N7
RV30	M4
S1	N21
TP1	K1
TP2	H21
TP3	K21
TP5	M20
TP6	M20
TP7	M9
TP8	L10
TP9	L10
TP10	L4
TP11	L7
TP12	M7
TP13	J21
TP14	L2
TP15	N2
TP16	G3
TP17	H10
TP18	D5
TP19	H10
TP20	H3
TP21	H2
TP22	F13
TP23	F3
TP24	F10
TP25	B8
TP26	B11
TP27	C4
TP28	H10
TP30	D3
TP31	C7
TP32	B12
TP33	B18
TP34	C20
TP35	D10
TP36	L19
X1	N19
X2	E6
X3	F14
X4	D8

RD-7 BOARD (1/4)

DT Control (Digital Section)


ICK2 TC74HC245P
ICJ21 μPD1054C
ICJ19 μPD1054C
ICJ18 μPD1054C
ICJ17 TC74HC273P
ICJ11 CXD1095Q
I/O PORT EXPANDER
(SV-TBC INTERFACE)
ICJ16 TC74HC02P
ICK3 TC74HC138P
ICJ1 SN74LS14N
ICK9 SN74HC32N
ICK10 TC74HC670P
ICK11 TC74HC670P
SV-DT INTERFACE
(4x4 BIT REGISTER FILE)
ICJ5 SN74LS14N
ICJ15 SN74LS08N
ICL21 SN74LS04N
CTC
ICK15 μPD71054C
ICK17 μPD71054C
ICK18 μPD71054C
ICK19 μPD71054C
ICK21 μPD71054C
CTC
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
PA,SV,
SY,RD,
PR,OP,
VO,AU,
CK,
IC-1
(MB-140)
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
47 x 8
SV A0
SV A1
SV A2
SV A3
SV A4
SV A5
~RD CS
~SV WR
~RESET
~SV RD
SV CTC 2-2
SV CTC 1-2
SV CTC 0-2
SV CTC 2-1
SV CTC 1-1
SV CTC 0-1
SV CTC 2-0
SV CTC 1-0
SV CTC 0-0
CN313
CONNECTED TO IC M18 (μPD78C10G)
DTM RST
E1~E11
C REG OFF
P/S
FRAME PULSE SEL 2
FRAME PULSE SEL 1
CF PULSE SEL 2
CF PULSE SEL 1
SV/TBC
SV REF INP/EXT
B-C PHASE L/R
SC PHASE L/R
SYNC PHASE L/R
RD TEST 1
VELO RESET
~PAL BW
DP VIDEO EN
TBC REF EXT/INP
V BLK 14
V BLK 13
V BLK 12
V BLK 11
V BLK 10
V BLK 9
V BLK 8
V BLK 7
V BLK 22
V BLK 21
V BLK 20
V BLK 19
V BLK 18
V BLK 17
V BLK 16
V BLK 15
EXT CFP
TBC NO REF
SV NO REF
BLK PLS SEL
READ ZERO JUMP
C ADD OFF
HFBL EN
ID ON
VPF 1
VPF 2
WR SCH (X)
WR SCH (G)
ANA REF
TBC REF SCH
REF SCH
DT DRIVE
ENV
SG
~RD INT2
FH X
2 FRAME
PB V
PB WINDOW
REF FRAME
DT V
~RESET
HCK/2
REF ADV V
HCK/8
SAMPLE PLS
PB H
TO 2/4
TO 3/4
TO 4/4
FROM 2/4
FROM 3/4
FROM 4/4

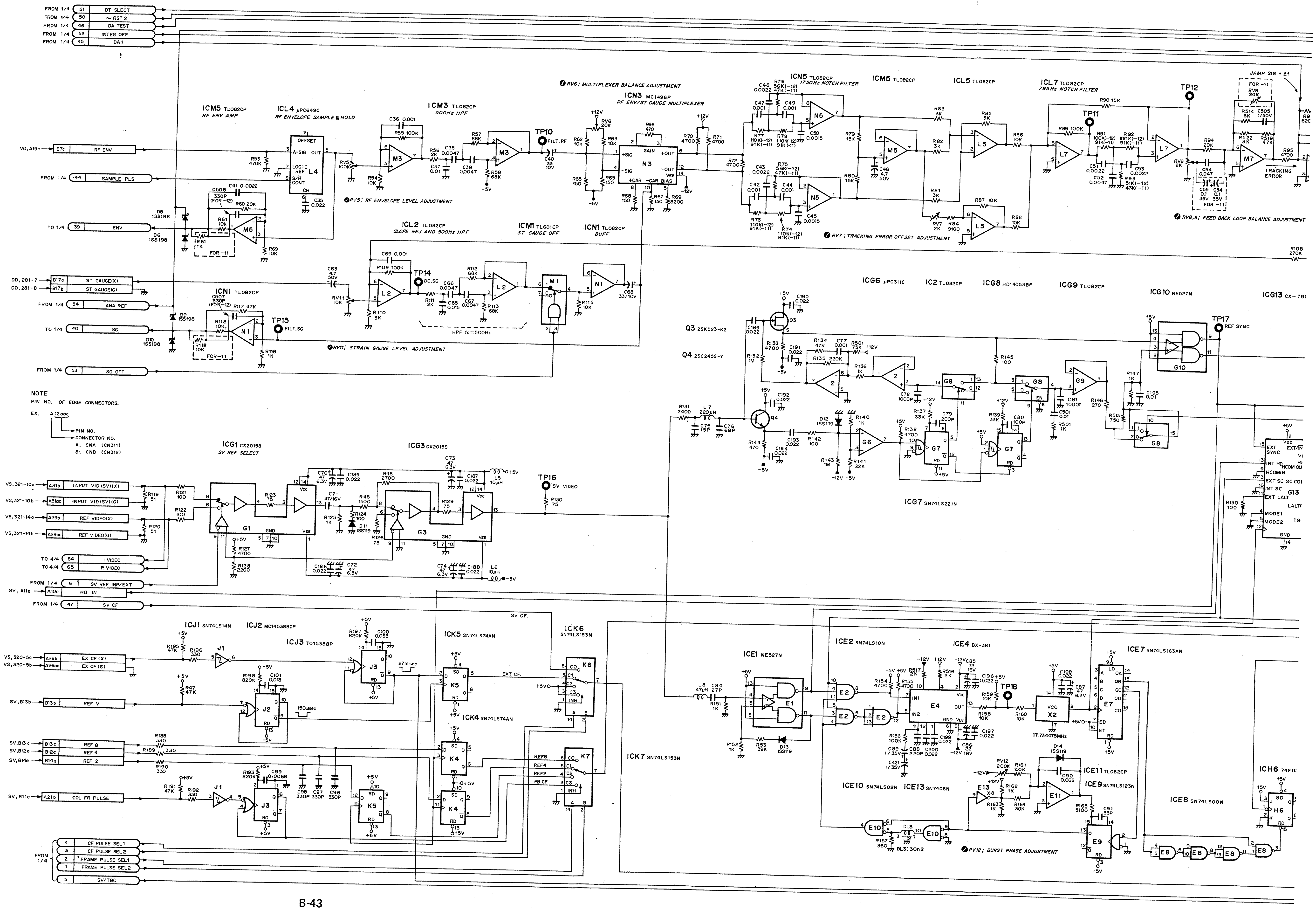

IC18 μPD78C10G-36 DT CPU
M18
IC3 TL082CP
ICN16 μPC78L08
ICM4 TL082CP
ICN16 μPC78L05
WR SCH (X)
WR SCH (G)
ANA REF
TBC REF SCH
REF SCH
DT DRIVE
ENV
SG
RD INT2
FH X
2 FRAME
PB V
PB WINDOW
REF FRAME
DT V
~ RESET
HCK/2
REF ADV V
HCK/8
SAMPLE PLS
PB H
TP37
TP1
TP2
TP3 SEL V
TP5
TP6
TP7
TP8
TP9
ICJ8 SN74LS221N FREQ DOUBLER(FHX→2FHX)
ICH17 SN74LS00N
ICH16 TC74HC08P
ICJ1 SN74LS14N
ICJ16 TC74HC02P
ICJ7 SN74LS123N WATCH DOG TIMER
ICK14 SN74LS74AN PB V IN-PHASE DET
ICH15 SN74LS04N
ICK12 SN74LS00N
ICK15 SN74LS04N
ICJ13 SN74LS00N
ICJ5 SN74LS14N
ICL21 SN74LS04N
ICL12 TL7705ACP
ICL21 SN74LS04N
ICJ15 SN74LS08N
ICH16 SN74HC08N
ICM12 TC74HC00P
ICH16 SN74HC08N
ICM16 TC74HC373N ADDRESS LATCH
ICM15 TC74HC245P DATA TRANSCEIVER
ICM21 DS1210 BATT BACK-UP CONT
ICN15 TC5517AFL 2K-BYTE SRAM
ICM14 27C64-RDP1 8K-BYTE EPROM
ICN13 CXD1095Q I/O PORT EXPANDER
ICM11 μPC648C 12-BIT D/A CONV (JUMP SIGNAL)
ICL11 TD62901P 8-BIT D/A CONV (Δf SIGNAL)
IC4 TL082CP
ICL9,M10 TL082CP
ICK13 TL601CP
ICL15 TC74HC155P
ICM12 SN74HC00N WRITE ADDRESS DECODER
NM1 (2000~2007)
PIO1 (2008~200F)
DS R/W (2010~2017)
CTC1 (2018~201F)
CTC2 (2020~2027)
CTC3 (2027~202F)
CTC4 (2030~2037)
CTC5 (2038~203F)
DT CTC 5-2
DT CTC 5-1
ENV SAM.TIM
CTC32 JUMPSTATUS
CTC31 DTV GEN.
CTC30 ADV PBVGEN.
DT CTC 4-2
CTC41 PRE REF GEN.
CTC40 INPHASE DET.
CTC12 Δf GATE
CTC11 ΔΦ CK
CTC10 ΔΦ DET
CTC22 Δf DET.
CTC21 WOBBLING OFF
CTC20 WOBBLING
K15
K17
K18
K19
K21
K13
BURST DET 63 TO 2/4
DA TEST 46 TO 2/4
DA 1 45 TO 2/4
DT SPEED (X) B15b CK,B15b
DT SPEED (G) B15ac CK,B15ac
JUMP STATUS 3 B8c CK,B8c
JUMP STATUS 2 B8b CK,B8b
JUMP STATUS 1 B8a CK,B8a
SV CF 47 TO 2/4
~ CF RESET 48 TO 3/4
3 FIELD RST 49 TO 2/4
~ RST 2 50 TO 2/4
DT SELECT 51 TO 2/4
INTEG OFF 52 TO 2/4
SG OFF 53 TO 2/4
WOBBLING 54 TO 2/4
S1 TEST
D2 LN358P (GREEN) REF CF
D1 LN358P (GREEN) +5V READY
RV4; WOBBLING LEVEL ADJUSTMENT
NOTE
PIN NO. OF EDGE CONNECTORS
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA(CN311)
B; CNB(CN312)

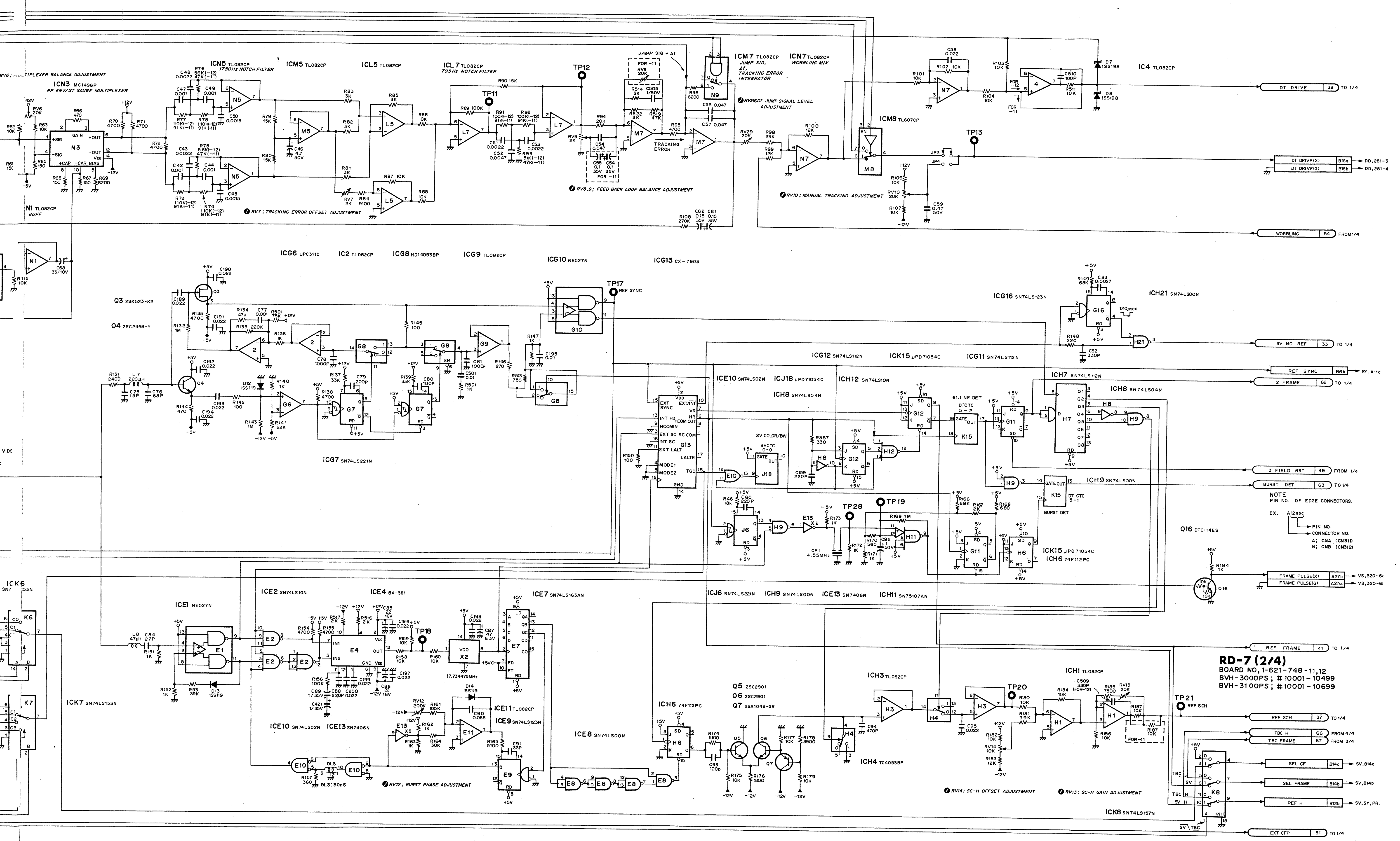
RD-7 BOARD (1/4)

BOARD NO. 1-621-748-11,12
BVH-3000PS ; #10001-10499
BVH-3100PS ; #10001-10699

RD-7 BOARD (2/4)

DT Control (Analog Section)
Servo Reference Signal Generator

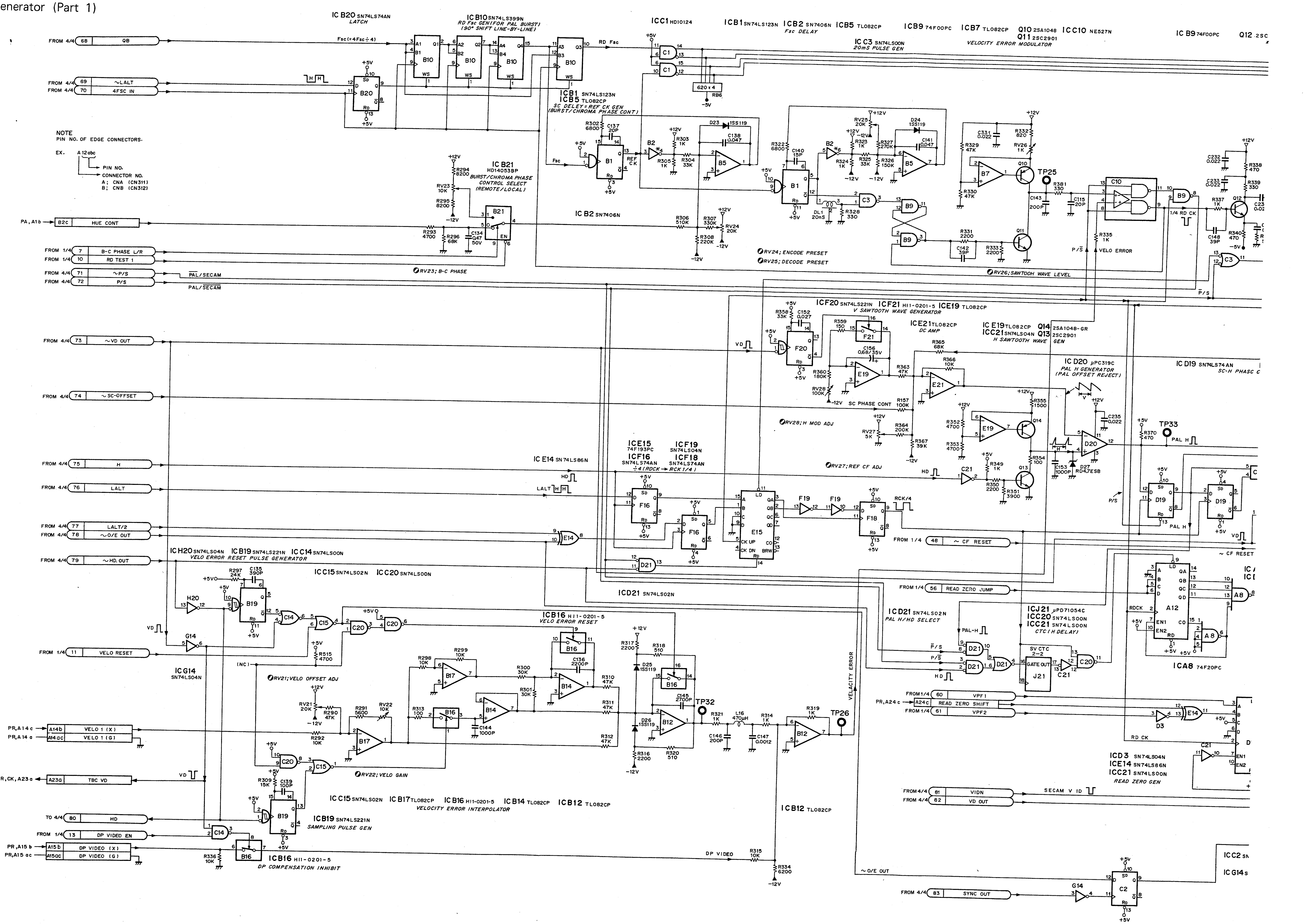

FROM 1/4 51 DT SLECT
FROM 1/4 50 ~RST 2
FROM 1/4 46 DA TEST
FROM 1/4 52 INTEG OFF
FROM 1/4 45 DA 1
ICM5 TL082CP RF ENV AMP
ICL4 μPC649C RF ENVELOPE SAMPLE & HOLD
ICM3 TL082CP 500Hz HPF
ICN3 MC1496P RF ENV/ST GAUGE MULTIPLEXER
RV6; MULTIPLEXER BALANCE ADJUSTMENT
ICN5 TL082CP 1750Hz NOTCH FILTER
ICM5 TL082CP
ICL5 TL082CP
ICL7 TL082CP 795Hz NOTCH FILTER
JAMP SIG + Δf
TP10 FILT. RF
TP11
TP12
VO, A15c B7c RF ENV
FROM 1/4 44 SAMPLE PLS
TO 1/4 39 ENV
RV5; RF ENVELOPE LEVEL ADJUSTMENT
RV7; TRACKING ERROR OFFSET ADJUSTMENT
RV8,9; FEED BACK LOOP BALANCE ADJUSTMENT
TRACKING ERROR
ICL2 TL082CP SLOPE REJ AND 500Hz HPF
ICM1 TL601CP ST GAUGE OFF
ICN1 TL082CP BUFF
TP14 DC.SG
DD, 281-7 B17c ST GAUGE(X)
DD, 281-8 B17b ST GAUGE(G)
FROM 1/4 34 ANA REF
TO 1/4 40 SG
TP15 FILT. SG
ICN1 TL082CP
HPF fc≒500Hz
RV11; STRAIN GAUGE LEVEL ADJUSTMENT
FROM 1/4 53 SG OFF
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
ICG13 CX-79
Q3 2SK523-K2
Q4 2SC2458-Y
TP17 REF SYNC
ICG7 SN74LS221N
ICG1 CX20158 SV REF SELECT
ICG3 CX20158
TP16 SV VIDEO
VS, 321-10a A31b INPUT VID (SV)(X)
VS, 321-10b A31ac INPUT VID (SV)(G)
VS, 321-14a A29b REF VIDEO(X)
VS, 321-14b A29ac REF VIDEO(G)
TO 4/4 64 I VIDEO
TO 4/4 65 R VIDEO
FROM 1/4 6 SV REF INP/EXT
SV, A11a A10a HD IN
FROM 1/4 47 SV CF
ICJ1 SN74LS14N
ICJ2 MC14538BCP
ICJ3 TC4538BP
ICK5 SN74LS74AN
ICK6 SN74LS153N
ICK4 SN74LS74AN
ICK7 SN74LS153N
VS, 320-5a A26b EX CF (X)
VS, 320-5b A26ac EX CF (G)
SV, B13b B13b REF V
SV, B13c B13c REF 8
SV, B12a B12c REF 4
SV, B14a B14a REF 2
SV, B11a A21b COL FR PULSE
27msec
150μsec
EXT CF.
SV CF.
FROM 1/4 4 CF PULSE SEL1
3 CF PULSE SEL2
2 FRAME PULSE SEL1
1 FRAME PULSE SEL2
5 SV/TBC
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
ICE7 SN74LS163AN
TP18
X2 VCO 17.734475MHz
ICE10 SN74LS02N
ICE13 SN7406N
ICE11 TL082CP
ICE9 SN74LS123N
ICE8 SN74LS00N
ICH6 74F112
DL3; 30nS
RV12; BURST PHASE ADJUSTMENT

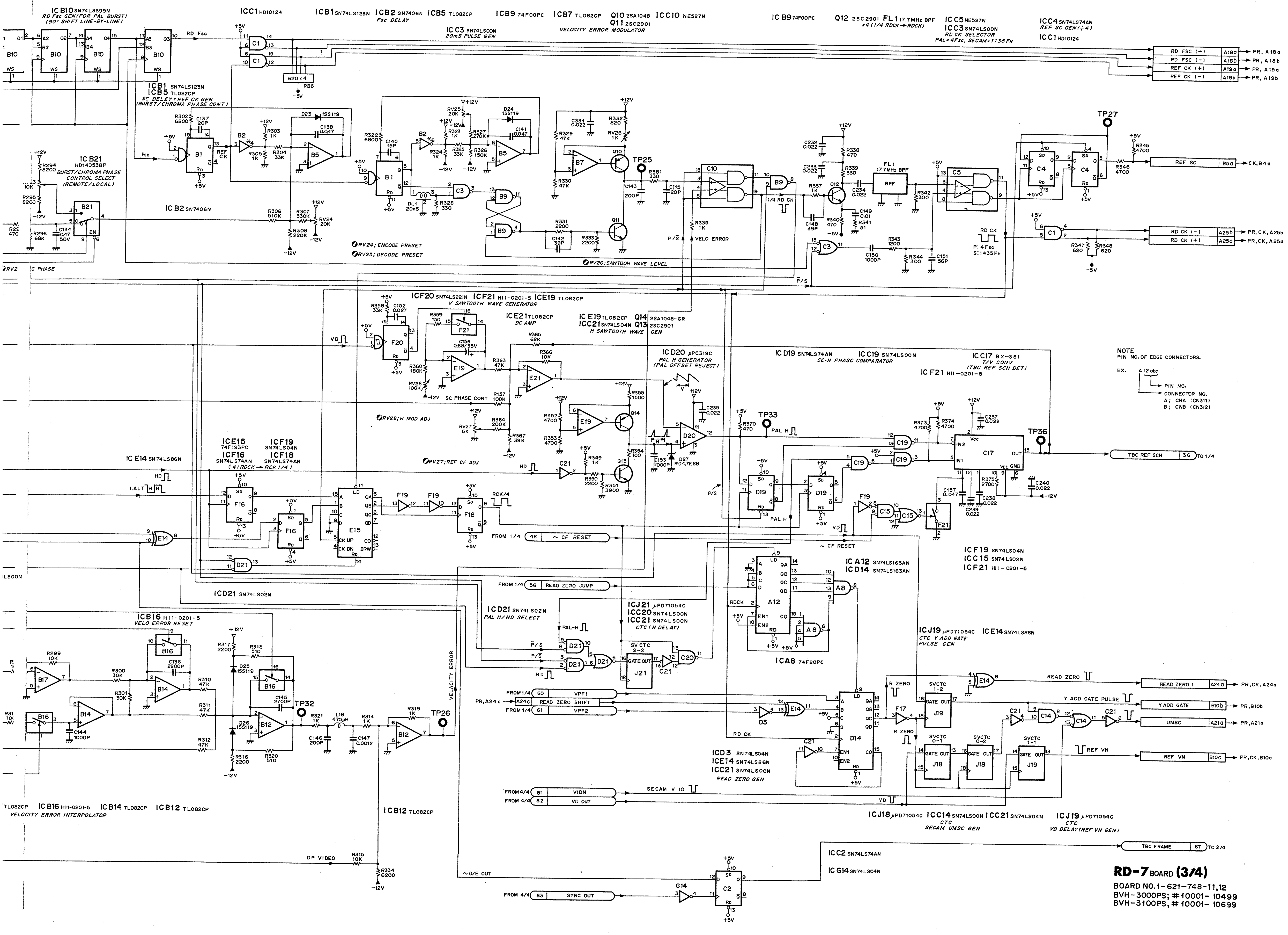

ICN3 MC1496P RF ENV/ST GAUGE MULTIPLEXER
RV6; MULTIPLEXER BALANCE ADJUSTMENT
N1 TL082CP BUFF
ICN5 TL082CP 1750Hz NOTCH FILTER
ICM5 TL082CP
ICL5 TL082CP
ICL7 TL082CP 795Hz NOTCH FILTER
TP11
TP12
RV7; TRACKING ERROR OFFSET ADJUSTMENT
RV8,9; FEED BACK LOOP BALANCE ADJUSTMENT
TRACKING ERROR
ICM7 TL082CP JUMP SIG, Δf, TRACKING ERROR INTEGRATOR
ICN7 TL082CP WOBBLING MIX
RV29; DT JUMP SIGNAL LEVEL ADJUSTMENT
ICM8 TL607CP
RV10; MANUAL TRACKING ADJUSTMENT
TP13
IC4 TL082CP
DT DRIVE 38 TO 1/4
DT DRIVE(X) B16a DD,281-3
DT DRIVE(G) B16b DD,281-4
WOBBLING 54 FROM1/4
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
ICG13 CX-7903
TP17 REF SYNC
Q3 2SK523-K2
Q4 2SC2458-Y
ICG7 SN74LS221N
ICG16 SN74LS123N
ICH21 SN74LS00N
SV NO REF 33 TO 1/4
REF SYNC B6b SY,A11c
2 FRAME 62 TO 1/4
ICG12 SN74LS112N
ICK15 μPD71054C
ICG11 SN74LS112N
ICE10 SN74LS02N
ICJ18 μPD71054C
ICH12 SN74LS10N
ICH8 SN74LS04N
ICH7 SN74LS112N
ICH8 SN74LS04N
SV COLOR/BW
3 FIELD RST 49 FROM 1/4
BURST DET 63 TO 1/4
ICH9 SN74LS00N
TP28
TP19
ICK15 μPD71054C
ICH6 74F112PC
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
Q16 DTC114ES
FRAME PULSE(X) A27b VS,320-6
FRAME PULSE(G) A27ac VS,320-6
ICK6 SN7...53N
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
ICE7 SN74LS163AN
TP18
ICK7 SN74LS153N
ICJ6 SN74LS221N
ICH9 SN74LS00N
ICE13 SN7406N
ICH11 SN75107AN
REF FRAME 41 TO 1/4
ICE11 TL082CP
ICE9 SN74LS123N
ICE10 SN74LS02N
ICE13 SN7406N
RV12; BURST PHASE ADJUSTMENT
ICE8 SN74LS00N
ICH6 74F112PC
Q5 2SC2901
Q6 2SC2901
Q7 2SA1048-GR
ICH3 TL082CP
ICH4 TC4053BP
ICH1 TL082CP
TP20
TP21 REF SCH
RV14; SC-H OFFSET ADJUSTMENT
RV13; SC-H GAIN ADJUSTMENT
REF SCH 37 TO 1/4
TBC H 66 FROM 4/4
TBC FRAME 67 FROM 3/4
SEL CF B14c SV,B14c
SEL FRAME B14b SV,B14b
REF H B12b SV,SY,PR.
ICK8 SN74LS157N
EXT CFP 31 TO 1/4
17.734475MHz
CF1 4.55MHz
DL3: 30nS

RD-7 (2/4)
BOARD NO, 1-621-748-11,12
BVH-3000PS ; #10001-10499
BVH-3100PS ; #10001-10699

RD-7 BOARD (3/4)

TBC Reference Signal Generator (Part 1)

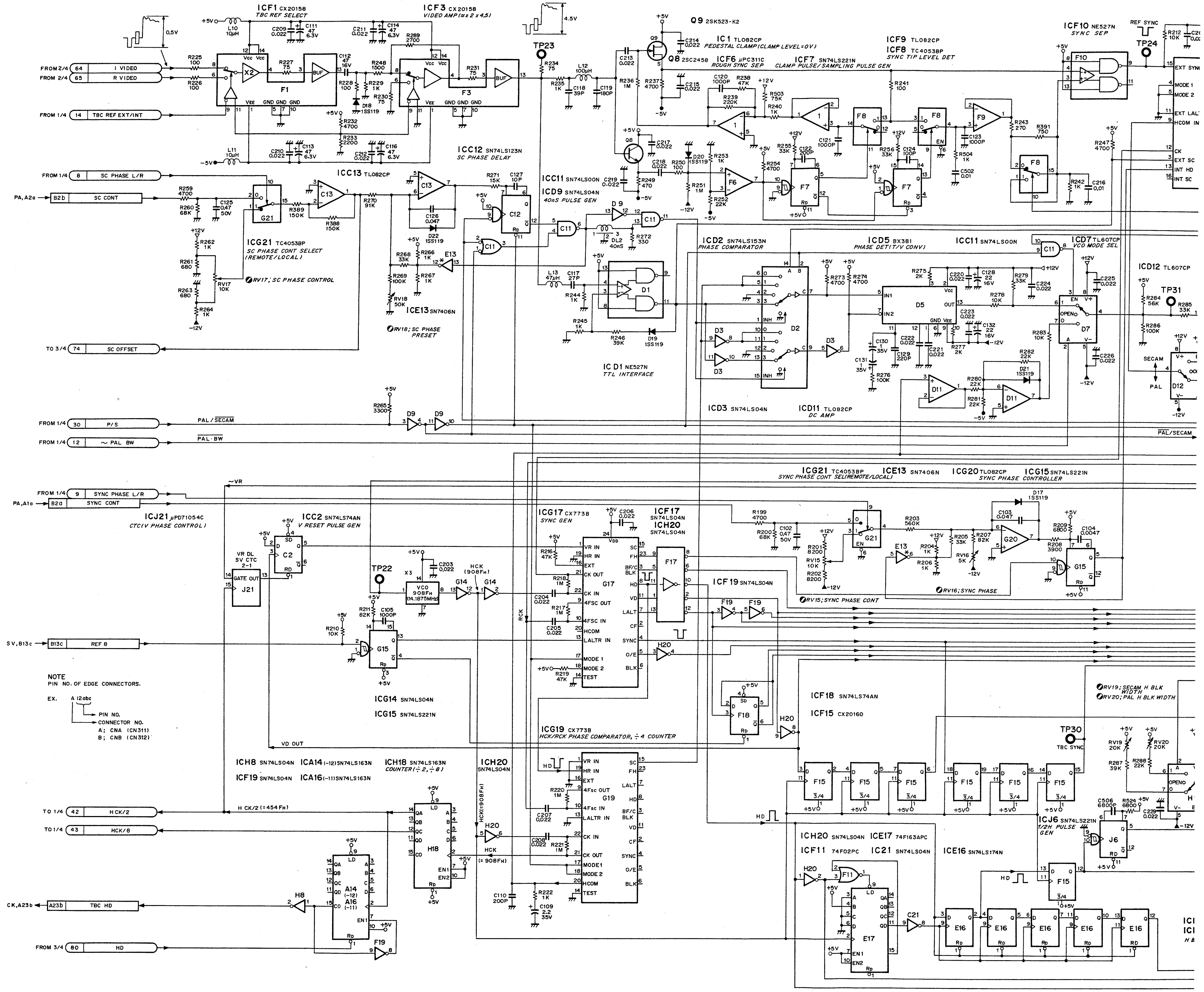

IC B20 SN74LS74AN LATCH
IC B10 SN74LS399N RD Fsc GEN(FOR PAL BURST) (90° SHIFT LINE-BY-LINE)
ICC1 HD10124
ICB1 SN74LS123N
ICB2 SN7406N Fsc DELAY
ICB5 TL082CP
IC C3 SN74LS00N 20mS PULSE GEN
ICB9 74F00PC
ICB7 TL082CP
Q10 2SA1048
Q11 2SC2901
VELOCITY ERROR MODULATOR
ICC10 NE527N
IC B9 74F00PC
FROM 4/4 68 QB
FROM 4/4 69 ~LALT
FROM 4/4 70 4FSC IN
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
ICB1 SN74LS123N
ICB5 TL082CP
SC DELEY+REF CK GEN (BURST/CHROMA PHASE CONT)
IC B21 HD14053BP BURST/CHROMA PHASE CONTROL SELECT (REMOTE/LOCAL)
IC B2 SN7406N
PA, A1b B2c HUE CONT
FROM 1/4 7 B-C PHASE L/R
FROM 1/4 10 RD TEST 1
FROM 4/4 71 ~P/S
FROM 4/4 72 P/S
PAL/SECAM
RV23; B-C PHASE
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
TP25
VELO ERROR
ICF20 SN74LS221N
ICF21 H11-0201-5
ICE19 TL082CP
V SAWTOOTH WAVE GENERATOR
ICE21 TL082CP DC AMP
IC E19 TL082CP
ICC21 SN74LS04N
Q14 2SA1048-GR
Q13 2SC2901
H SAWTOOTH WAVE GEN
IC D20 μPC319C PAL H GENERATOR (PAL OFFSET REJECT)
IC D19 SN74LS74AN SC-H PHASE
TP33
PAL H
FROM 4/4 73 ~VD OUT
FROM 4/4 74 ~SC-OFFSET
FROM 4/4 75 H
FROM 4/4 76 LALT
FROM 4/4 77 LALT/2
FROM 4/4 78 ~O/E OUT
FROM 4/4 79 ~HD. OUT
RV28; H MOD ADJ
RV27; REF CF ADJ
SC PHASE CONT
ICE15 74F193PC
ICF19 SN74LS04N
ICF16 SN74LS74AN
ICF18 SN74LS74AN
÷4 (RCK→RCK 1/4)
IC E14 SN74LS86N
RCK/4
FROM 1/4 48 ~CF RESET
~CF RESET
ICD21 SN74LS02N
ICH20 SN74LS04N
ICB19 SN74LS221N
ICC14 SN74LS00N
VELO ERROR RESET PULSE GENERATOR
ICC15 SN74LS02N
ICC20 SN74LS00N
ICB16 H11-0201-5 VELO ERROR RESET
FROM 1/4 11 VELO RESET
ICG14 SN74LS04N
RV21; VELO OFFSET ADJ
RV22; VELO GAIN
TP32
TP26
VELOCITY ERROR
PR, A14c A14b VELO 1 (X)
PR, A14a A14ac VELO 1 (G)
PR, CK, A23a A23a TBC VD
ICC15 SN74LS02N
ICB17 TL082CP
ICB16 H11-0201-5
ICB14 TL082CP
ICB12 TL082CP
VELOCITY ERROR INTERPOLATOR
ICB19 SN74LS221N SAMPLING PULSE GEN
TO 4/4 80 HD
FROM 1/4 13 DP VIDEO EN
PR, A15b A15b DP VIDEO (X)
PR, A15ac A15ac DP VIDEO (G)
ICB16 H11-0201-5 DP COMPENSATION INHIBIT
DP VIDEO
ICB12 TL082CP
FROM 1/4 56 READ ZERO JUMP
ICD21 SN74LS02N PAL H/HD SELECT
ICJ21 μPD71054C
ICC20 SN74LS00N
ICC21 SN74LS00N
CTC (H DELAY)
FROM 1/4 60 VPF1
PR, A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
ICA8 74F20PC
ICD3 SN74LS04N
ICE14 SN74LS86N
ICC21 SN74LS00N
READ ZERO GEN
RD CK
FROM 4/4 81 VIDN
FROM 4/4 82 VD OUT
SECAM V ID
~O/E OUT
FROM 4/4 83 SYNC OUT
ICC2
ICG14

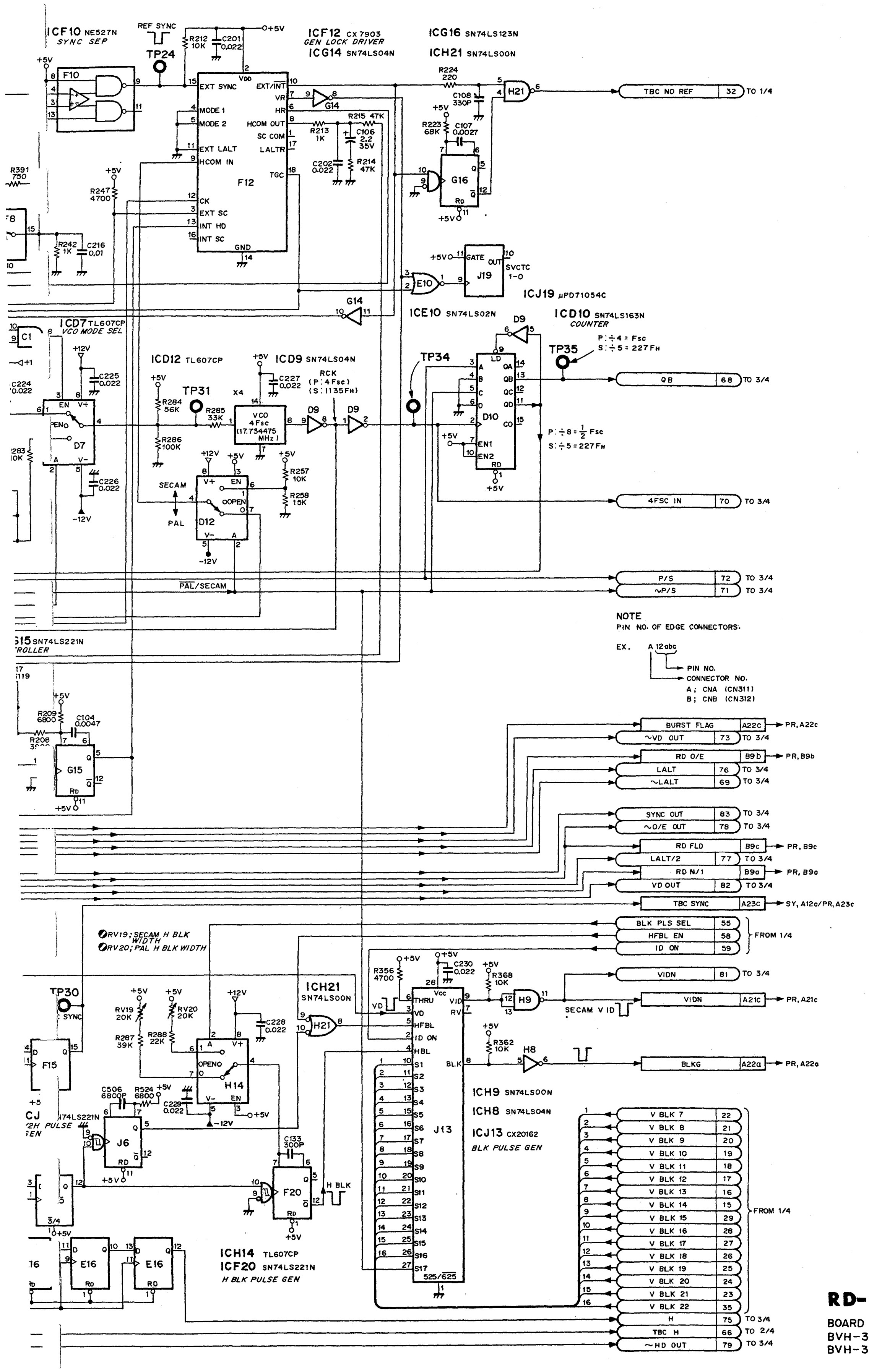

IC B10 SN74LS399N
RD Fsc GEN(FOR PAL BURST)
(90° SHIFT LINE-BY-LINE)
ICC1 HD10124
ICB1 SN74LS123N
ICB2 SN7406N
Fsc DELAY
ICB5 TL082CP
ICB9 74F00PC
ICB7 TL082CP
Q10 2SA1048
Q11 2SC2901
ICC10 NE527N
VELOCITY ERROR MODULATOR
ICC3 SN74LS00N
20mS PULSE GEN
IC B9 74F00PC
Q12 2SC2901
FL1 17.7MHz BPF
x4 (1/4 RDCK→RDCK)
ICC5 NE527N
ICC3 SN74LS00N
RD CK SELECTOR
PAL=4Fsc, SECAM=1135 FH
ICC4 SN74LS74AN
REF SC GEN(÷4)
ICC1 HD10124
RD FSC (+) A18a PR, A18a
RD FSC (−) A18b PR, A18b
REF CK (+) A19a PR, A19a
REF CK (−) A19b PR, A19b
ICB1 SN74LS123N
ICB5 TL082CP
SC DELEY=REF CK GEN
(BURST/CHROMA PHASE CONT)
IC B21 HD14053BP
BURST/CHROMA PHASE CONTROL SELECT (REMOTE/LOCAL)
IC B2 SN7406N
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
VELO ERROR
TP25
TP27
REF SC B5a CK,B4a
RD CK (−) A25b PR,CK,A25b
RD CK (+) A25a PR,CK,A25a
P: 4Fsc
S: 1435FH
C PHASE
ICF20 SN74LS221N
ICF21 H11-0201-5
ICE19 TL082CP
V SAWTOOTH WAVE GENERATOR
ICE21 TL082CP
DC AMP
ICE19 TL082CP
ICC21 SN74LS04N
Q14 2SA1048-GR
Q13 2SC2901
H SAWTOOTH WAVE GEN
ICD20 μPC319C
PAL H GENERATOR
(PAL OFFSET REJECT)
ICD19 SN74LS74AN
SC-H PHASC COMPARATOR
ICC19 SN74LS00N
ICC17 BX-381
T/V CONV
(TBC REF SCH DET)
ICF21 H11-0201-5
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
SC PHASE CONT
RV28; H MOD ADJ
RV27; REF CF ADJ
TP33
TP36
TBC REF SCH 36 TO 1/4
IC E14 SN74LS86N
ICE15 74F193PC
ICF19 SN74LS04N
ICF16 SN74LS74AN
ICF18 SN74LS74AN
÷4 (RDCK→RCK 1/4)
LALT
FROM 1/4 48 ~ CF RESET
~ CF RESET
ICF19 SN74LS04N
ICC15 SN74LS02N
ICF21 H11-0201-5
ICD21 SN74LS02N
FROM 1/4 56 READ ZERO JUMP
ICD21 SN74LS02N
PAL H/HD SELECT
ICJ21 μPD71054C
ICC20 SN74LS00N
ICC21 SN74LS00N
CTC (H DELAY)
ICA12 SN74LS163AN
ICD14 SN74LS163AN
ICA8 74F20PC
ICB16 H11-0201-5
VELO ERROR RESET
ICJ19 μPD71054C
ICE14 SN74LS86N
CTC Y ADD GATE PULSE GEN
READ ZERO 1 A24a PR,CK,A24a
Y ADD GATE PULSE
Y ADD GATE B10b PR,B10b
UMSC A21a PR,A21a
REF VN
REF VN B10c PR,CK,B10c
FROM 1/4 60 VPF1
PR,A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
ICD3 SN74LS04N
ICE14 SN74LS86N
ICC21 SN74LS00N
READ ZERO GEN
TP32
TP26
VELOCITY ERROR
FROM 4/4 81 VIDN
FROM 4/4 62 VD OUT
SECAM V ID
ICJ18 μPD71054C
ICC14 SN74LS00N
ICC21 SN74LS04N
CTC SECAM UMSC GEN
ICJ19 μPD71054C
CTC VD DELAY(REF VN GEN)
TL082CP
IC B16 H11-0201-5
IC B14 TL082CP
IC B12 TL082CP
VELOCITY ERROR INTERPOLATOR
ICB12 TL082CP
DP VIDEO
~O/E OUT
ICC2 SN74LS74AN
IC G14 SN74LS04N
TBC FRAME 67 TO 2/4
FROM 4/4 83 SYNC OUT

RD-7 BOARD **(3/4)**
BOARD NO.1-621-748-11,12
BVH-3000PS; #10001-10499
BVH-3100PS, #10001-10699

RD-7 BOARD (4/4)

TBC Reference Signal Generator (Part 2)


ICF1 CX20158 TBC REF SELECT
ICF3 CX20158 VIDEO AMP (x2 x 4.5)
FROM 2/4 64 I VIDEO
FROM 2/4 65 R VIDEO
FROM 1/4 14 TBC REF EXT/INT
TP23
Q9 2SK523-K2
IC1 TL082CP PEDESTAL CLAMP (CLAMP LEVEL=0V)
Q8 2SC2458
ICF6 μPC311C ROUGH SYNC SEP
ICF7 SN74LS221N CLAMP PULSE/SAMPLING PULSE GEN
ICF9 TL082CP
ICF8 TC4053BP SYNC TIP LEVEL DET
ICF10 NE527N SYNC SEP
REF SYNC
TP24
ICC12 SN74LS123N SC PHASE DELAY
ICC13 TL082CP
FROM 1/4 8 SC PHASE L/R
PA,A2a 82b SC CONT
ICG21 TC4053BP SC PHASE CONT SELECT (REMOTE/LOCAL)
RV17; SC PHASE CONTROL
ICE13 SN7406N
RV18; SC PHASE PRESET
ICC11 SN74LS00N
ICD9 SN74LS04N 40nS PULSE GEN
DL2 40nS
ICD1 NE527N TTL INTERFACE
ICD2 SN74LS153N PHASE COMPARATOR
ICD5 BX381 PHASE DET/F/V CONV
ICC11 SN74LS00N
ICD7 TL607CP VCO MODE SEL
ICD12 TL607CP
TP31
ICD3 SN74LS04N
ICD11 TL082CP DC AMP
TO 3/4 74 SC OFFSET
FROM 1/4 30 P/S
FROM 1/4 12 ~PAL BW
PAL/SECAM
PAL·BW
FROM 1/4 9 SYNC PHASE L/R
PA,A1a 82a SYNC CONT
ICJ21 μPD71054C CTC (V PHASE CONTROL)
ICC2 SN74LS74AN V RESET PULSE GEN
ICG21 TC4053BP SYNC PHASE CONT SEL (REMOTE/LOCAL)
ICE13 SN7406N
ICG20 TL082CP
ICG15 SN74LS221N SYNC PHASE CONTROLLER
ICG17 CX7738 SYNC GEN
ICF17 SN74LS04N
ICH20 SN74LS04N
ICF19 SN74LS04N
TP22
X3 VCO 908FH (14.1875MHz)
HCK (908FH)
RV15; SYNC PHASE CONT
RV16; SYNC PHASE
SV,B13c B13c REF 8
ICG14 SN74LS04N
ICG15 SN74LS221N
ICF18 SN74LS74AN
ICF15 CX20160
RV19; SECAM H BLK WIDTH
RV20; PAL H BLK WIDTH
TP30 TBC SYNC
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN3111)
B; CNB (CN3112)
ICG19 CX7738 HCK/RCK PHASE COMPARATOR, ÷4 COUNTER
VD OUT
ICH8 SN74LS04N
ICA14 (-12) SN74LS163N
ICH18 SN74LS163N COUNTER (÷2, ÷8)
ICF19 SN74LS04N
ICA16 (-11) SN74LS163N
ICH20 SN74LS04N
H CK/2 (=454FH)
TO 1/4 42 HCK/2
TO 1/4 43 HCK/8
CK,A23b A23b TBC HD
FROM 3/4 80 HD
ICH20 SN74LS04N
ICE17 74F163APC
ICF11 74F02PC
IC21 SN74LS04N
ICE16 SN74LS174N
ICJ6 SN74LS221N 1/2H PULSE GEN


ICF10 NE527N SYNC SEP
REF SYNC
TP24
ICF12 CX7903 GEN LOCK DRIVER
ICG14 SN74LS04N
ICG16 SN74LS123N
ICH21 SN74LS00N
F12
G16
H21
TBC NO REF 32 TO 1/4
J19
SVCTC 1-0
ICE10 SN74LS02N
ICJ19 μPD71054C
ICD10 SN74LS163N COUNTER
ICD7 TL607CP VCO MODE SEL
ICD12 TL607CP
ICD9 SN74LS04N
TP31
TP34
TP35
P: ÷4 = Fsc
S: ÷5 = 227FH
QB 68 TO 3/4
P: ÷8 = 1/2 Fsc
S: ÷5 = 227FH
4FSC IN 70 TO 3/4
D7
D12
D10
SECAM
PAL
P/S 72 TO 3/4
~P/S 71 TO 3/4
PAL/SECAM
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
G15 SN74LS221N
BURST FLAG A22c PR, A22c
~VD OUT 73 TO 3/4
RD O/E B9b PR, B9b
LALT 76 TO 3/4
~LALT 69 TO 3/4
SYNC OUT 83 TO 3/4
~O/E OUT 78 TO 3/4
RD FLD B9c PR, B9c
LALT/2 77 TO 3/4
RD N/1 B9a PR, B9a
VD OUT 82 TO 3/4
TBC SYNC A23c SY, A12a/PR, A23c
BLK PLS SEL 55
HFBL EN 58
ID ON 59
FROM 1/4
RV19; SECAM H BLK WIDTH
RV20; PAL H BLK WIDTH
TP30
ICH21 SN74LS00N
VIDN 81 TO 3/4
SECAM V ID
VIDN A21c PR, A21c
BLKG A22a PR, A22a
H9
H8
J13
ICH9 SN74LS00N
ICH8 SN74LS04N
ICJ13 CX20162 BLK PULSE GEN
F15
J6
H14
F20
E16
H BLK
ICH14 TL607CP
ICF20 SN74LS221N H BLK PULSE GEN
V BLK 7 22
V BLK 8 21
V BLK 9 20
V BLK 10 19
V BLK 11 18
V BLK 12 17
V BLK 13 16
V BLK 14 15
V BLK 15 29
V BLK 16 28
V BLK 17 27
V BLK 18 26
V BLK 19 25
V BLK 20 24
V BLK 21 23
V BLK 22 35
FROM 1/4
H 75 TO 3/4
TBC H 66 TO 2/4
~HD OUT 79 TO 3/4

RD-7 BOARD **(4/4)**

BOARD NO. 1-621-748-11,12
BVH-3000PS; #10001-10499
BVH-3100PS, #10001-10699

RD-7 **BOARD** (1-621-748-14)
Component Side

1
2
3
4
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11
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14
15
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17
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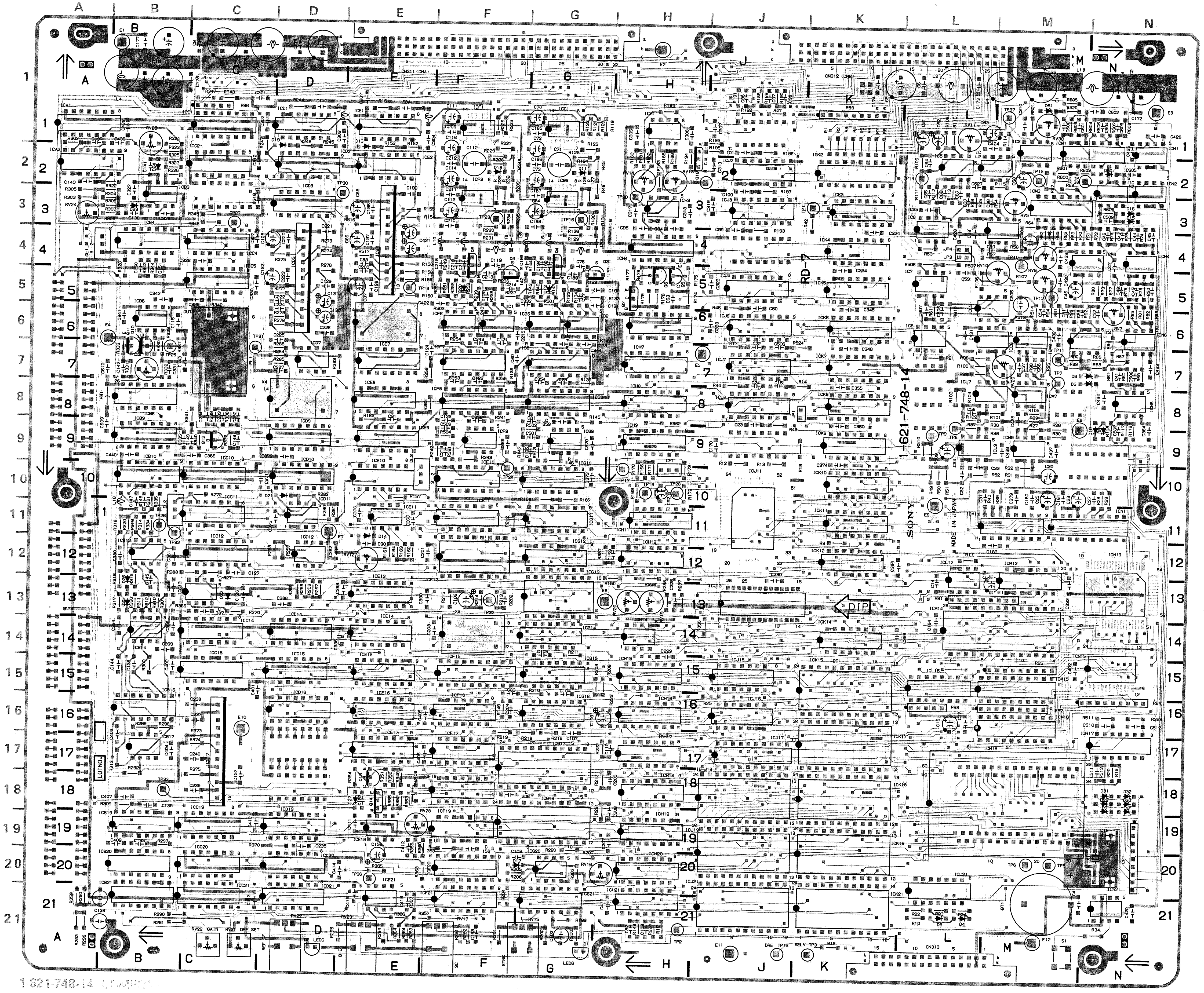
19
20
21



1-621-748-14 SOLDER SIDE

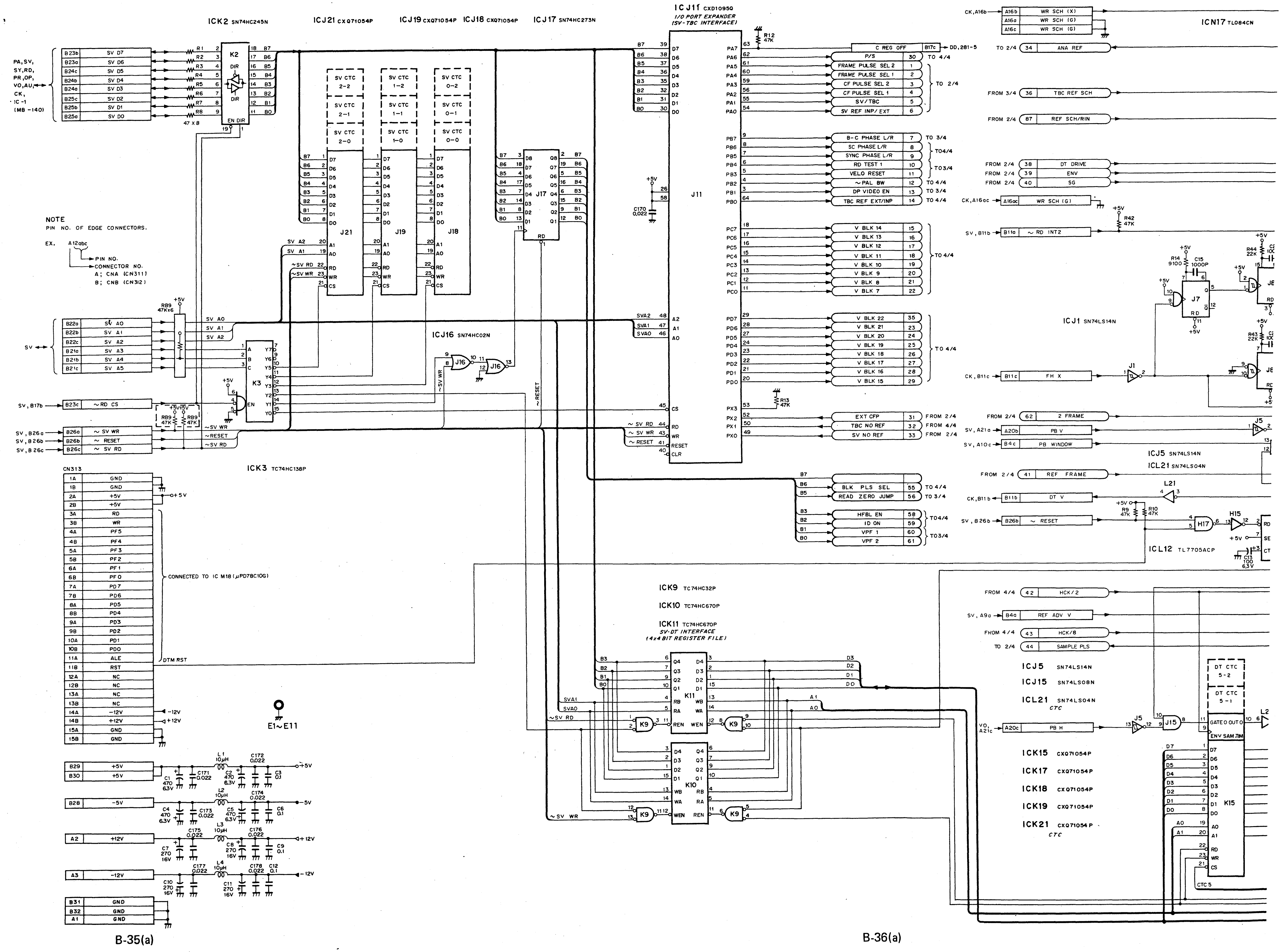
RD-7 (1-621-748-14)

BVH-3000PS
BVH-3100PS

BT1	M20
CF1	H10
CN311	F1
CN312	K1
CN313	L21
CP1	N20
D1	G21
D2	D21
D3	L21
D4	L21
D5	N7
D6	N7
D7	N18
D8	N18
D9	N9
D10	N9
D11	G2
D12	G5
D13	E1
D14	E11
D15	N3
D16	N3
D17	F20
D18	F2
D19	D1
D20	F5
D21	D10
D22	C13
D23	B3
D24	B2
D25	B13
D26	B13
D27	E18
D29	N18
D30	N18
D31	N18
D32	N18
D60	N2
D61	M1
DL1	A4
DL2	B11
DL3	E10
E1	B1
E2	H1
E3	N1
E4	B6
E5	H7
E6	N9
E7	D11
E8	G13
E9	L10
E10	C16
E11	J21
E12	M21
FL1	C6
IC1	F6
IC2	G6
IC3	M1
IC4	N6
IC5	L2
IC6	L3
IC7	L5
IC8	L6
JP1	J8
JP3	L4
JP4	L4
Q3	G5
Q4	G4
Q5	H5
Q6	H5
Q7	H5
Q8	F5
Q9	F5
Q10	B7
Q11	B7
Q12	C9
Q13	E18
Q14	E18
Q16	H2
RB1	L13
RB2	M16
RB4	N16
RB5	M15
RB6	C1
RB8	L16
RB9	K1
RV5	M3
RV6	M4
RV7	N6
RV9	M5
RV10	M5
RV11	L1
RV12	E12
RV13	H2
RV14	H2
RV15	G21
RV16	H20
RV17	F21
RV19	H13
RV20	H13
RV21	C21
RV22	C21
RV23	E21
RV24	A3
RV25	B1
RV26	B7
RV27	D21
RV28	E19
RV29	M7
RV30	M1
S1	M21
TP1	K3
TP2	H21
TP3	K21
TP5	M20
TP6	M20
TP7	M7
TP8	L9
TP9	L9
TP10	M4
TP11	M7
TP12	M5
TP13	J21
TP14	L2
TP15	M2
TP16	G3
TP17	H10
TP18	E5
TP19	H10
TP20	H3
TP21	H2
TP22	F13
TP23	F3
TP24	F10
TP25	B7
TP26	B11
TP27	C3
TP28	H10
TP30	D3
TP31	C7
TP32	B12
TP33	B18
TP36	E20
TP37	M1
TP38	M2
X1	N20
X2	E6
X3	F14
X4	D8

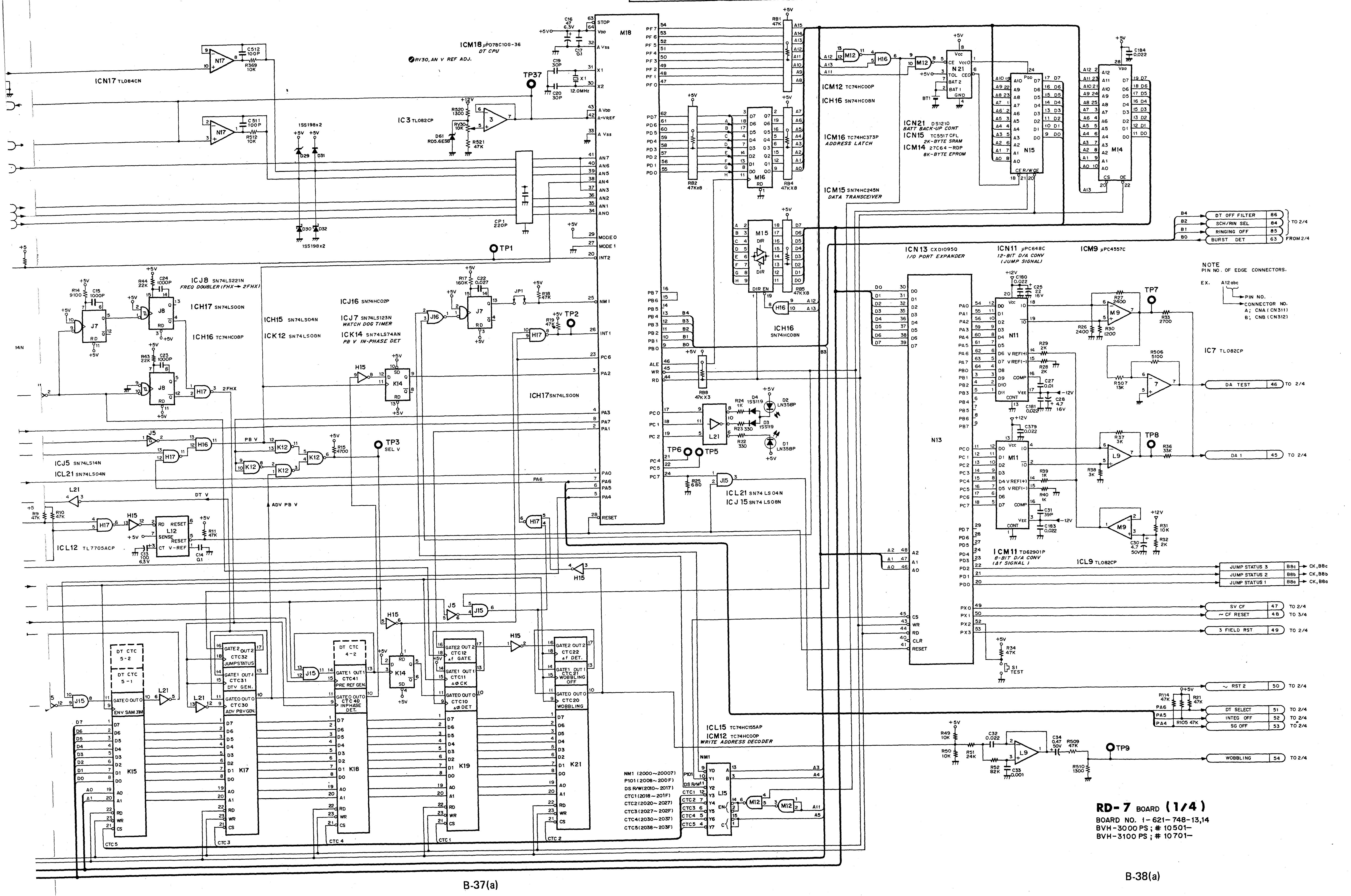
RD-7 BOARD (1/4)

DT Control (Digital Section)


ICK2 SN74HC245N
ICJ21 CXQ71054P
ICJ19 CXQ71054P
ICJ18 CXQ71054P
ICJ17 SN74HC273N
ICJ11 CXD10950
I/O PORT EXPANDER
(SV-TBC INTERFACE)
ICN17 TL084CN
PA, SV, SY, RD, PR, OP, VO, AU, CK, IC-1 (MB-140)
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
47 X 8
EN DIR
SV CTC 2-2
SV CTC 2-1
SV CTC 2-0
SV CTC 1-2
SV CTC 1-1
SV CTC 1-0
SV CTC 0-2
SV CTC 0-1
SV CTC 0-0
J21
J19
J18
J17
J11
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
SV A0
SV A1
SV A2
SV A3
SV A4
SV A5
~RD CS
~SV WR
~RESET
~SV RD
ICK3 TC74HC138P
ICJ16 SN74HC02N
C REG OFF
DD,281-5
P/S
FRAME PULSE SEL 2
FRAME PULSE SEL 1
CF PULSE SEL 2
CF PULSE SEL 1
SV/TBC
SV REF INP/EXT
B-C PHASE L/R
SC PHASE L/R
SYNC PHASE L/R
RD TEST 1
VELO RESET
~PAL BW
DP VIDEO EN
TBC REF EXT/INP
V BLK 14
V BLK 13
V BLK 12
V BLK 11
V BLK 10
V BLK 9
V BLK 8
V BLK 7
V BLK 22
V BLK 21
V BLK 20
V BLK 19
V BLK 18
V BLK 17
V BLK 16
V BLK 15
EXT CFP
TBC NO REF
SV NO REF
BLK PLS SEL
READ ZERO JUMP
HFBL EN
ID ON
VPF 1
VPF 2
TO 2/4
TO 3/4
TO 4/4
FROM 2/4
FROM 3/4
FROM 4/4
WR SCH (X)
WR SCH (G)
ANA REF
TBC REF SCH
REF SCH/RIN
DT DRIVE
ENV
SG
~RD INT2
FH X
2 FRAME
PB V
PB WINDOW
REF FRAME
DT V
~RESET
HCK/2
REF ADV V
HCK/8
SAMPLE PLS
PB H
ICJ1 SN74LS14N
ICJ5 SN74LS14N
ICL21 SN74LS04N
ICL12 TL7705ACP
CN313
GND
+5V
RD
WR
PF5
PF4
PF3
PF2
PF1
PF0
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
ALE
RST
NC
-12V
+12V
CONNECTED TO IC M18 (μPD78C10G)
DTM RST
E1~E11
ICK9 TC74HC32P
ICK10 TC74HC670P
ICK11 TC74HC670P
SV-DT INTERFACE
(4x4 BIT REGISTER FILE)
K11
K10
K9
K15
ICJ5 SN74LS14N
ICJ15 SN74LS08N
ICL21 SN74LS04N
CTC
ICK15 CXQ71054P
ICK17 CXQ71054P
ICK18 CXQ71054P
ICK19 CXQ71054P
ICK21 CXQ71054P
CTC
DT CTC 5-2
DT CTC 5-1
GATE 0 OUT 0
ENV SAM TIM
CTC 5
L1 10μH
L2 10μH
L3 10μH
L4 10μH
-5V
+12V
-12V

B-35(a)

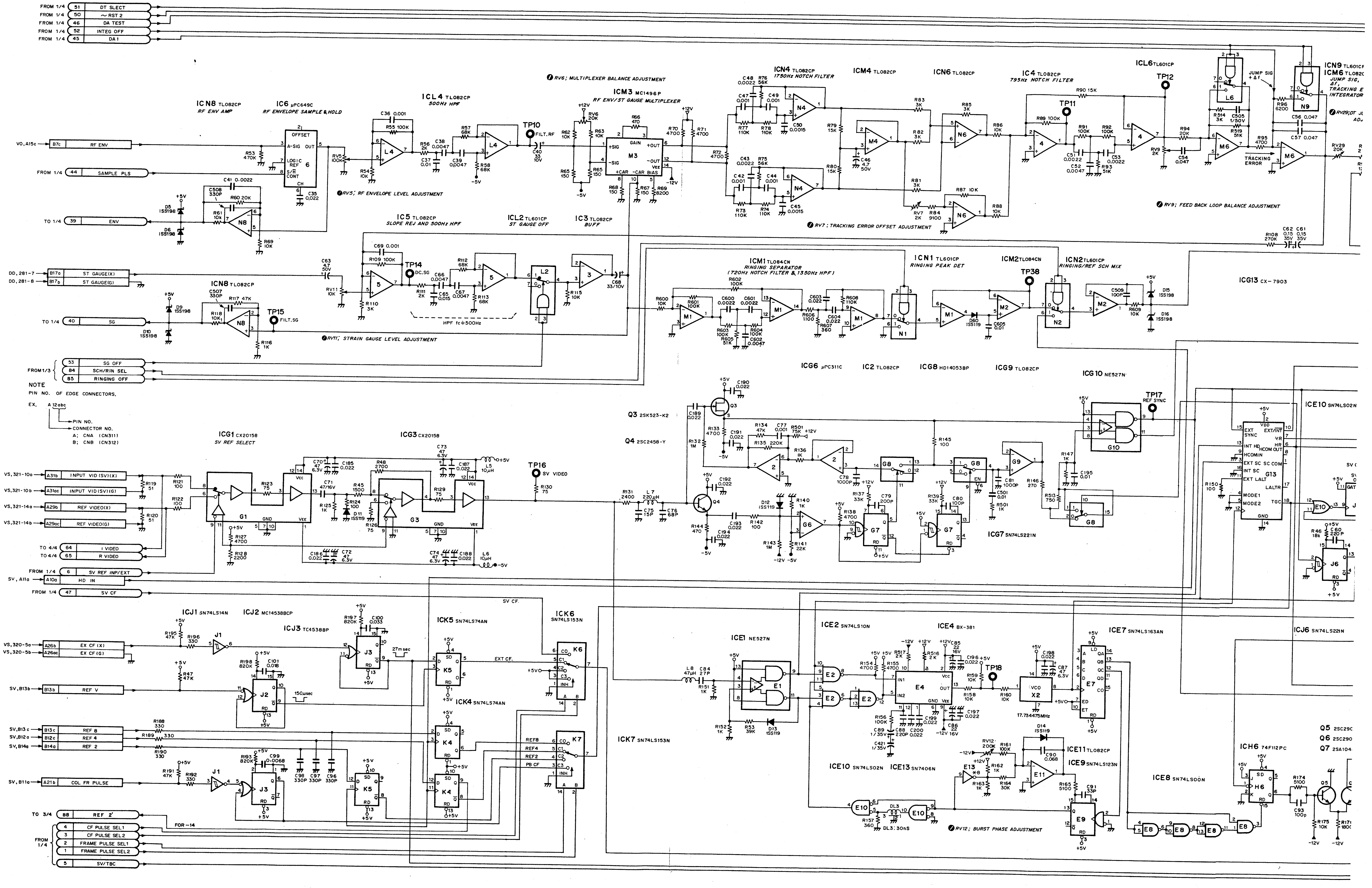
B-36(a)

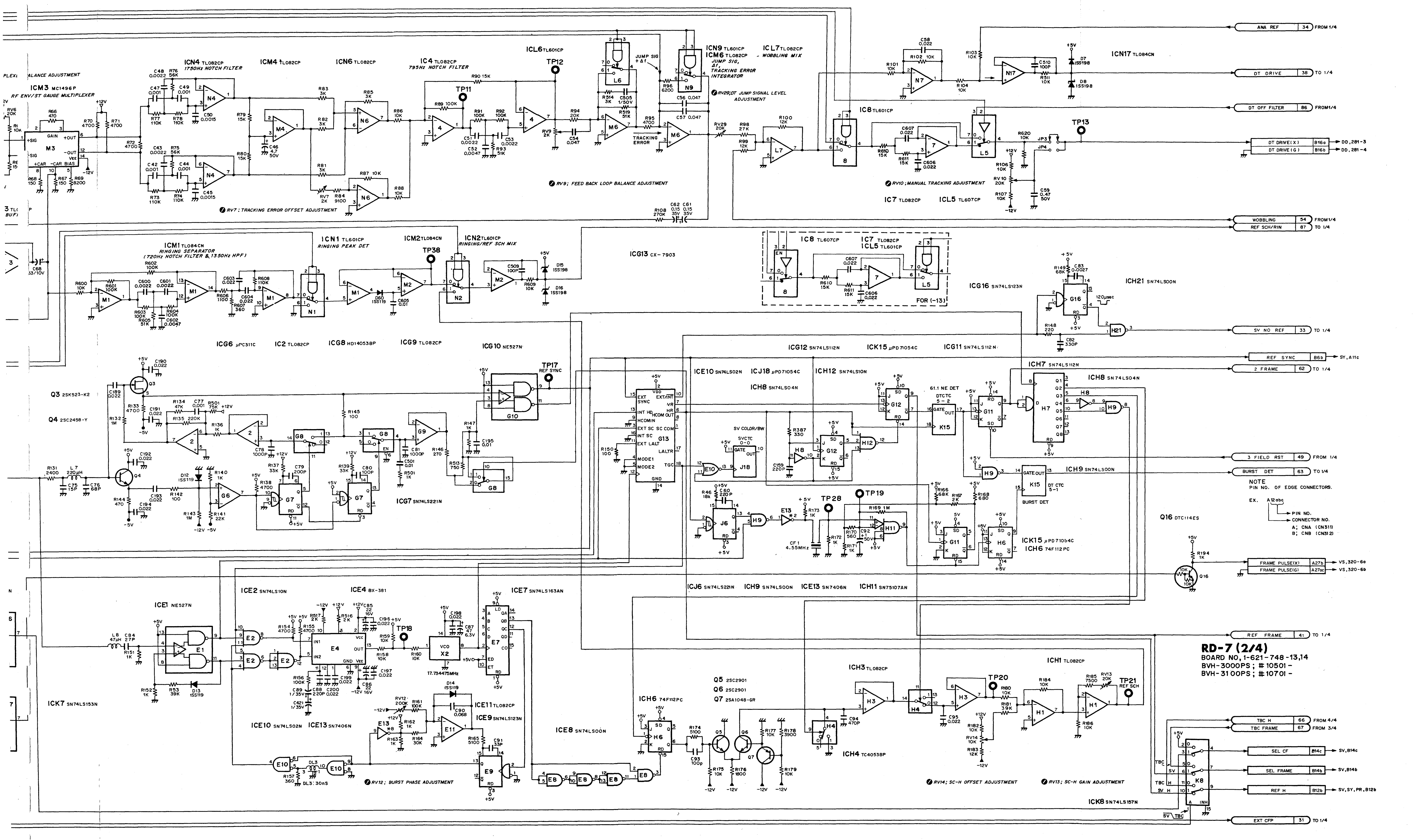

ICM18 μPD78C10G-36 DT CPU
RV30, AN V REF ADJ.
M18
TP37
X1 12.0MHz
IC3 TL082CP
ICN17 TL084CN
N17
1SS198x2
TP1
CP1 220P
ICJ8 SN74LS221N FREQ DOUBLER (FHX→2FHX)
ICH17 SN74LS00N
ICH16 TC74HC08P
ICH15 SN74LS04N
ICK12 SN74LS00N
ICJ16 SN74HC02P
ICJ7 SN74LS123N WATCH DOG TIMER
ICK14 SN74LS74AN PB V IN-PHASE DET
ICH17 SN74LS00N
TP2
TP3 SEL V
ADV PB V
ICJ5 SN74LS14N
ICL21 SN74LS04N
ICL12 TL7705ACP
L12
ICM12 TC74HC00P
ICH16 SN74HC08N
ICM16 TC74HC373P ADDRESS LATCH
ICM15 SN74HC245N DATA TRANSCEIVER
ICN21 DS1210 BATT BACK-UP CONT
ICN15 TC5517CFL 2K-BYTE SRAM
ICM14 27C64-RDP 8K-BYTE EPROM
N21
N15
M14
M16
M15
RB1 47K
RB2 47Kx8
RB4 47Kx8
RB5 47Kx8
RB8 47Kx3
L21
TP6
TP5
ICL21 SN74LS04N
ICJ15 SN74LS08N
ICN13 CXD1095Q I/O PORT EXPANDER
N13
ICN11 μPC648C 12-BIT D/A CONV (JUMP SIGNAL)
ICM9 μPC4557C
N11
M11
ICM11 TD62901P 8-BIT D/A CONV (Δf SIGNAL)
IC7 TL082CP
ICL9 TL082CP
TP7
TP8
TP9
M9
L9
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
DT OFF FILTER 86
SCH/RIN SEL 84
RINGING OFF 85
BURST DET 63
TO 2/4
FROM 2/4
DA TEST 46 TO 2/4
DA 1 45 TO 2/4
JUMP STATUS 3 B8c CK,B8c
JUMP STATUS 2 B8b CK,B8b
JUMP STATUS 1 B8a CK,B8a
SV CF 47 TO 2/4
~CF RESET 48 TO 3/4
3 FIELD RST 49 TO 2/4
~RST 2 50 TO 2/4
DT SELECT 51 TO 2/4
INTEG OFF 52 TO 2/4
SG OFF 53 TO 2/4
WOBBLING 54 TO 2/4
S1 TEST
DT CTC 5-2
DT CTC 5-1
ENV SAM.3M
K15
CTC32 JUMPSTATUS
CTC31 DTV GEN.
CTC30 ADV PBVGEN.
K17
DT CTC 4-2
CTC41 PRE REF GEN.
CTC40 INPHASE DET.
K18
CTC12 Δf GATE
CTC11 AΦCK
CTC10 AΦDET
K19
CTC22 Δf DET.
CTC21 WOBBLING OFF
CTC20 WOBBLING
K21
K14
H15
J15
ICL15 TC74HC155AP
ICM12 TC74HC00P WRITE ADDRESS DECODER
L15
NM1 (2000~20007)
PIO1 (2008~200F)
DS R/W(2010~2017)
CTC1(2018~201F)
CTC2(2020~2027)
CTC3(2027~202F)
CTC4(2030~2037)
CTC5(2038~203F)

RD-7 BOARD (1/4)
BOARD NO. 1-621-748-13,14
BVH-3000 PS ; # 10501-
BVH-3100 PS ; # 10701-

RD-7 BOARD (2/4)

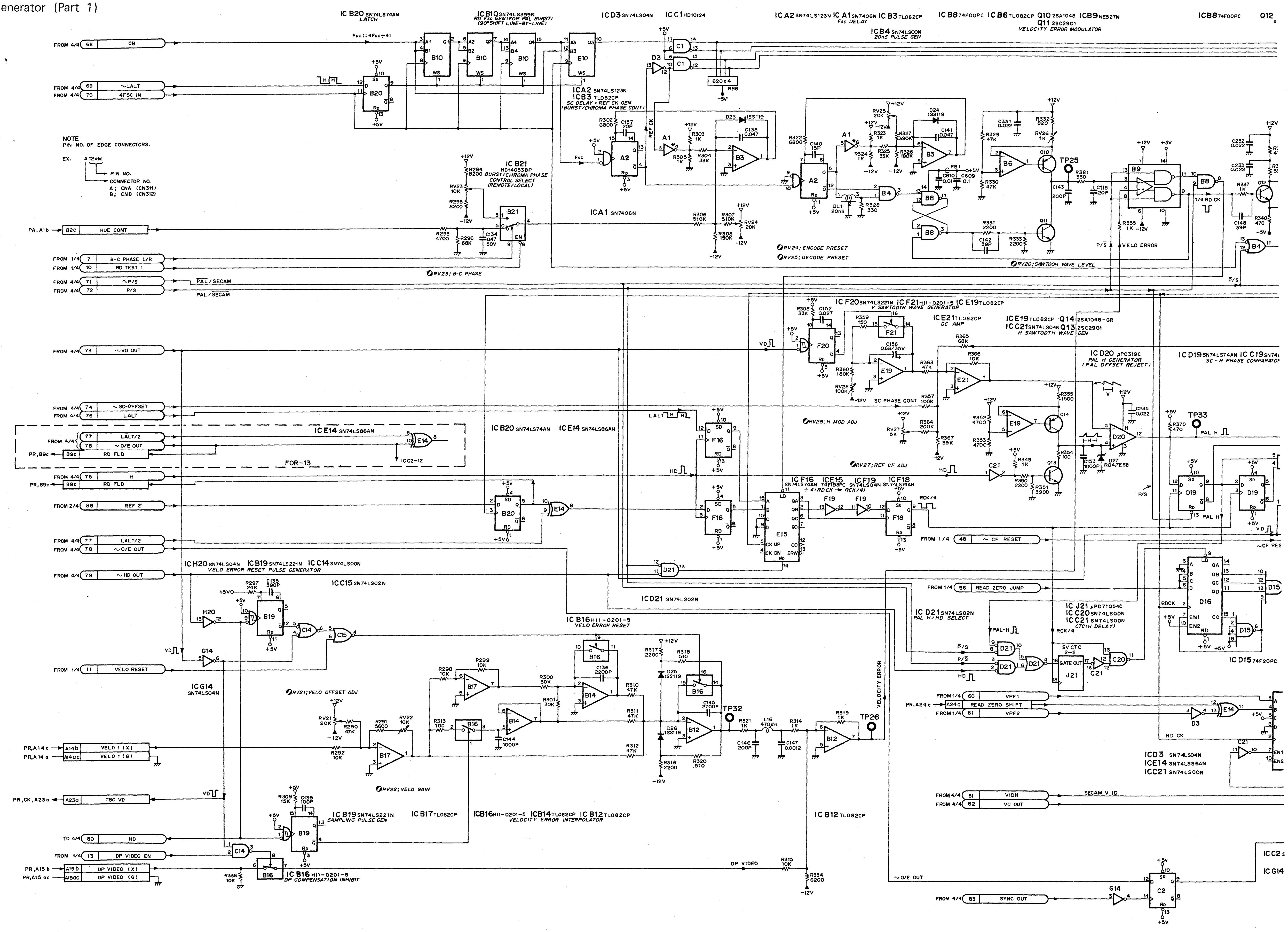
DT Control (Analog Section)
Servo Reference Signal Generator

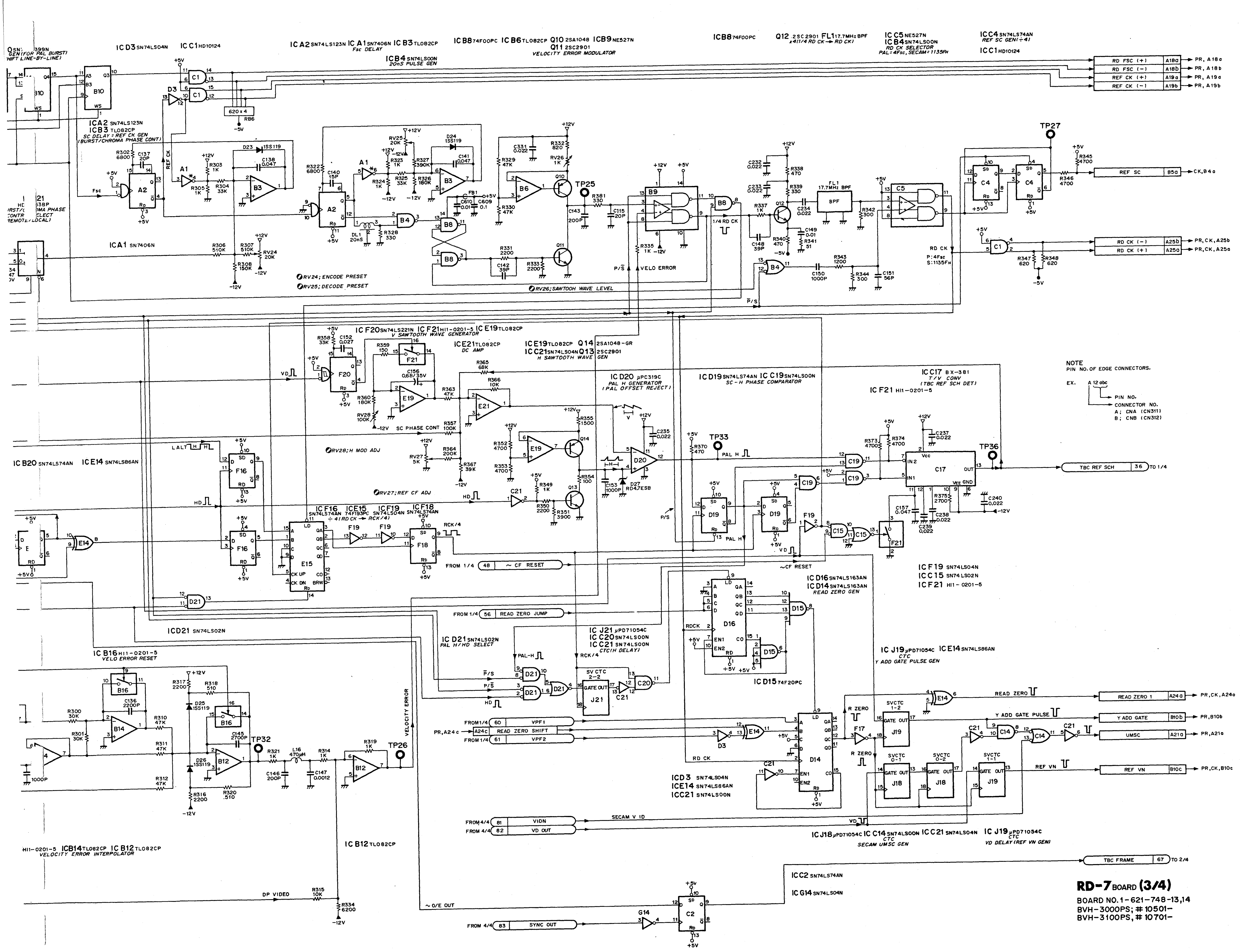

FROM 1/4 51 DT SLECT
FROM 1/4 50 ~RST 2
FROM 1/4 46 DA TEST
FROM 1/4 52 INTEG OFF
FROM 1/4 45 DA1
ICN8 TL082CP RF ENV AMP
IC6 μPC649C RF ENVELOPE SAMPLE & HOLD
ICL4 TL082CP 500Hz HPF
ICM3 MC1496P RF ENV/ST GAUGE MULTIPLEXER
RV6; MULTIPLEXER BALANCE ADJUSTMENT
ICN4 TL082CP 1750Hz NOTCH FILTER
ICM4 TL082CP
ICN6 TL082CP
IC4 TL082CP 795Hz NOTCH FILTER
ICL6 TL601CP
ICN9 TL601CP
ICM6 TL082CP JUMP SIG, ΔT, TRACKING ERROR INTEGRATOR
RV29; DT JUMP ADJ.
VO, A15c B7c RF ENV
FROM 1/4 44 SAMPLE PLS
TO 1/4 39 ENV
RV5; RF ENVELOPE LEVEL ADJUSTMENT
RV7; TRACKING ERROR OFFSET ADJUSTMENT
RV9; FEED BACK LOOP BALANCE ADJUSTMENT
TRACKING ERROR
IC5 TL082CP SLOPE REJ AND 500Hz HPF
ICL2 TL601CP ST GAUGE OFF
IC3 TL082CP BUFF
HPF fc≒500Hz
DD, 281-7 B17a ST GAUGE(X)
DD, 281-8 B17b ST GAUGE(G)
TO 1/4 40 SG
RV11; STRAIN GAUGE LEVEL ADJUSTMENT
ICM1 TL084CN RINGING SEPARATOR (720Hz NOTCH FILTER & 1350Hz HPF)
ICN1 TL601CP RINGING PEAK DET
ICM2 TL084CN
ICN2 TL601CP RINGING/REF SCH MIX
ICG13 CX-7903
FROM 1/3 53 SG OFF
84 SCH/RIN SEL
85 RINGING OFF
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
Q3 2SK523-K2
Q4 2SC2458-Y
ICG1 CX20158 SV REF SELECT
ICG3 CX20158
ICG7 SN74LS221N
ICE10 SN74LS02N
VS, 321-10a A31b INPUT VID (SV)(X)
VS, 321-10b A31ac INPUT VID (SV)(G)
VS, 321-14a A29b REF VIDEO(X)
VS, 321-14b A29ac REF VIDEO(G)
TO 4/4 64 I VIDEO
TO 4/4 65 R VIDEO
FROM 1/4 6 SV REF INP/EXT
SV, A11a A10a HD IN
FROM 1/4 47 SV CF
TP10 FILT. RF
TP11
TP12
TP14 DC. SG
TP15 FILT. SG
TP16 SV VIDEO
TP17 REF SYNC
TP18
TP38
ICJ1 SN74LS14N
ICJ2 MC14538BCP
ICJ3 TC4538BP
ICK5 SN74LS74AN
ICK4 SN74LS74AN
ICK6 SN74LS153N
ICK7 SN74LS153N
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
ICE7 SN74LS163AN
ICJ6 SN74LS221N
ICE10 SN74LS02N
ICE13 SN7406N
ICE11 TL082CP
ICE9 SN74LS123N
ICE8 SN74LS00N
ICH6 74F112PC
Q5 2SC290
Q6 2SC290
Q7 2SA104
VS, 320-5a A26b EX CF (X)
VS, 320-5b A26ac EX CF (G)
SV, B13b B13b REF V
SV, B13c B13c REF 8
SV, B12c B12c REF 4
SV, B14c B14a REF 2
SV, B11a A21b COL FR PULSE
27msec
150μsec
EXT CF.
SV CF.
17.734475MHz
VCO
DL3: 30nS
RV12; BURST PHASE ADJUSTMENT
TO 3/4 88 REF 2'
FROM 1/4 4 CF PULSE SEL1
3 CF PULSE SEL2
2 FRAME PULSE SEL1
1 FRAME PULSE SEL2
5 SV/TBC
FOR-14


ICM3 MC1496P
RF ENV/ST GAUGE MULTIPLEXER
BALANCE ADJUSTMENT
ICN4 TL082CP 1750Hz NOTCH FILTER
ICM4 TL082CP
ICN6 TL082CP
IC4 TL082CP 795Hz NOTCH FILTER
ICL6 TL601CP
TP11
TP12
JUMP SIG + Δf
ICN9 TL601CP
ICM6 TL082CP
JUMP SIG, Δf, TRACKING ERROR INTEGRATOR
ICL7 TL082CP - WOBBLING MIX
RV29; DT JUMP SIGNAL LEVEL ADJUSTMENT
TRACKING ERROR
RV9; FEED BACK LOOP BALANCE ADJUSTMENT
RV7 ; TRACKING ERROR OFFSET ADJUSTMENT
ICN17 TL084CN
IC8 TL601CP
TP13
RV10 ; MANUAL TRACKING ADJUSTMENT
IC7 TL082CP
ICL5 TL607CP
ANA REF 34 FROM 1/4
DT DRIVE 38 TO 1/4
DT OFF FILTER 86 FROM1/4
DT DRIVE(X) B16a DD,281-3
DT DRIVE(G) B16b DD,281-4
WOBBLING 54 FROM1/4
REF SCH/RIN 87 TO 1/4
ICN1 TL601CP RINGING PEAK DET
ICM2 TL084CN
ICN2 TL601CP RINGING/REF SCH MIX
ICM1 TL084CN RINGING SEPARATOR (720Hz NOTCH FILTER & 1350Hz HPF)
TP38
ICG13 CX-7903
IC8 TL607CP
IC7 TL082CP
ICL5 TL601CP
FOR (-13)
ICG16 SN74LS123N
ICH21 SN74LS00N
SV NO REF 33 TO 1/4
ICG6 μPC311C
IC2 TL082CP
ICG8 HD14053BP
ICG9 TL082CP
ICG10 NE527N
TP17 REF SYNC
Q3 2SK523-K2
Q4 2SC2458-Y
ICG7 SN74LS221N
ICG12 SN74LS112N
ICK15 μPD71054C
ICG11 SN74LS112N
REF SYNC 86b SY,A11c
2 FRAME 62 TO 1/4
ICE10 SN74LS02N
ICJ18 μPD71054C
ICH12 SN74LS10N
ICH8 SN74LS04N
ICH7 SN74LS112N
ICH8 SN74LS04N
SV COLOR/BW
61.1 NE DET
3 FIELD RST 49 FROM 1/4
BURST DET 63 TO 1/4
ICH9 SN74LS00N
BURST DET
TP28
TP19
CF1 4.55MHz
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
Q16 DTC114ES
ICK15 μPD71054C
ICH6 74F112PC
FRAME PULSE(X) A27b VS,320-6a
FRAME PULSE(G) A27a VS,320-6b
ICJ6 SN74LS221N
ICH9 SN74LS00N
ICE13 SN7406N
ICH11 SN75107AN
ICE1 NE527N
ICE2 SN74LS10N
ICE4 BX-381
TP18
17.734475MHz
ICE7 SN74LS163AN
REF FRAME 41 TO 1/4
RD-7 (2/4)
BOARD NO, 1-621-748-13,14
BVH-3000PS ; #10501-
BVH-3100PS ; #10701-
ICK7 SN74LS153N
ICE10 SN74LS02N
ICE13 SN7406N
ICE11 TL082CP
ICE9 SN74LS123N
RV12; BURST PHASE ADJUSTMENT
DL3; 30nS
ICE8 SN74LS00N
ICH6 74F112PC
Q5 2SC2901
Q6 2SC2901
Q7 2SA1048-GR
ICH3 TL082CP
ICH4 TC4053BP
TP20
ICH1 TL082CP
TP21 REF SCH
RV14; SC-H OFFSET ADJUSTMENT
RV13; SC-H GAIN ADJUSTMENT
TBC H 66 FROM 4/4
TBC FRAME 67 FROM 3/4
SEL CF B14c SV,B14c
SEL FRAME B14b SV,B14b
REF H B12b SV,SY,PR,B12b
ICK8 SN74LS157N
EXT CFP 31 TO 1/4

RD-7 BOARD (3/4)

TBC Reference Signal Generator (Part 1)


IC B20 SN74LS74AN LATCH
IC B10 SN74LS399N RD Fsc GEN (FOR PAL BURST) (90°SHIFT LINE-BY-LINE)
IC D3 SN74LS04N
IC C1 HD10124
IC A2 SN74LS123N
IC A1 SN7406N
IC B3 TL082CP
Fsc DELAY
IC B4 SN74LS00N 20nS PULSE GEN
IC B8 74F00PC
IC B6 TL082CP
Q10 2SA1048
IC B9 NE527N
Q11 2SC2901
VELOCITY ERROR MODULATOR
IC B8 74F00PC
Q12
IC A2 SN74LS123N
IC B3 TL082CP
SC DELAY = REF CK GEN (BURST/CHROMA PHASE CONT)
IC B21 HD14053BP BURST/CHROMA PHASE CONTROL SELECT (REMOTE/LOCAL)
IC A1 SN7406N
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A ; CNA (CN311)
B ; CNB (CN312)
FROM 4/4 68 OB
FROM 4/4 69 ~LALT
FROM 4/4 70 4FSC IN
PA, A1b B2C HUE CONT
FROM 1/4 7 B-C PHASE L/R
FROM 1/4 10 RD TEST 1
FROM 4/4 71 ~P/S
FROM 4/4 72 P/S
PAL / SECAM
FROM 4/4 73 ~VD OUT
FROM 4/4 74 ~SC-OFFSET
FROM 4/4 76 LALT
FROM 4/4 77 LALT/2
78 ~O/E OUT
PR, B9c B9c RD FLD
IC E14 SN74LS86AN
FOR-13
IC C2-12
FROM 4/4 75 H
PR, B9c B9c RD FLD
FROM 2/4 88 REF 2'
FROM 4/4 77 LALT/2
FROM 4/4 78 ~O/E OUT
FROM 4/4 79 ~HD OUT
FROM 1/4 11 VELO RESET
PR, A14c A14b VELO 1 (X)
PR, A14a A14ac VELO 1 (G)
PR, CK, A23a A23a TBC VD
TO 4/4 80 HD
FROM 1/4 13 DP VIDEO EN
PR, A15b A15b DP VIDEO (X)
PR, A15ac A15ac DP VIDEO (G)
RV23; B-C PHASE
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
TP25
1/4 RD CK
VELO ERROR
P/S
IC F20 SN74LS221N
IC F21 H11-0201-5
IC E19 TL082CP
V SAWTOOTH WAVE GENERATOR
IC E21 TL082CP DC AMP
IC E19 TL082CP
Q14 2SA1048-GR
IC C21 SN74LS04N
Q13 2SC2901
H SAWTOOTH WAVE GEN
IC D20 μPC319C PAL H GENERATOR (PAL OFFSET REJECT)
IC D19 SN74LS74AN
IC C19 SN74L
SC-H PHASE COMPARATOR
SC PHASE CONT
RV28; H MOD ADJ
RV27; REF CF ADJ
TP33
PAL H
IC B20 SN74LS74AN
IC E14 SN74LS86AN
IC F16 SN74LS74AN
IC E15 74F193PC
IC F19 SN74LS04N
IC F18 SN74LS74AN
÷ 4 (RD CK → RCK/4)
RCK/4
FROM 1/4 48 ~CF RESET
~CF RES
IC H20 SN74LS04N
IC B19 SN74LS221N
IC C14 SN74LS00N
VELO ERROR RESET PULSE GENERATOR
IC C15 SN74LS02N
IC D21 SN74LS02N
IC B16 H11-0201-5 VELO ERROR RESET
IC G14 SN74LS04N
RV21; VELO OFFSET ADJ
RV22; VELO GAIN
TP32
TP26
VELOCITY ERROR
FROM 1/4 56 READ ZERO JUMP
IC D21 SN74LS02N PAL H/HD SELECT
IC J21 μPD71054C
IC C20 SN74LS00N
IC C21 SN74LS00N
CTC (H DELAY)
PAL-H
RCK/4
SV CTC 2-2
GATE OUT
FROM 1/4 60 VPF1
PR, A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
IC D16
RDCK
IC D15 74F20PC
RD CK
IC D3 SN74LS04N
IC E14 SN74LS86AN
IC C21 SN74LS00N
IC B19 SN74LS221N SAMPLING PULSE GEN
IC B17 TL082CP
IC B16 H11-0201-5
IC B14 TL082CP
IC B12 TL082CP
VELOCITY ERROR INTERPOLATOR
IC B12 TL082CP
IC B16 H11-0201-5 DP COMPENSATION INHIBIT
DP VIDEO
FROM 4/4 81 VIDN
FROM 4/4 82 VD OUT
SECAM V ID
~O/E OUT
FROM 4/4 83 SYNC OUT
IC C2
IC G14

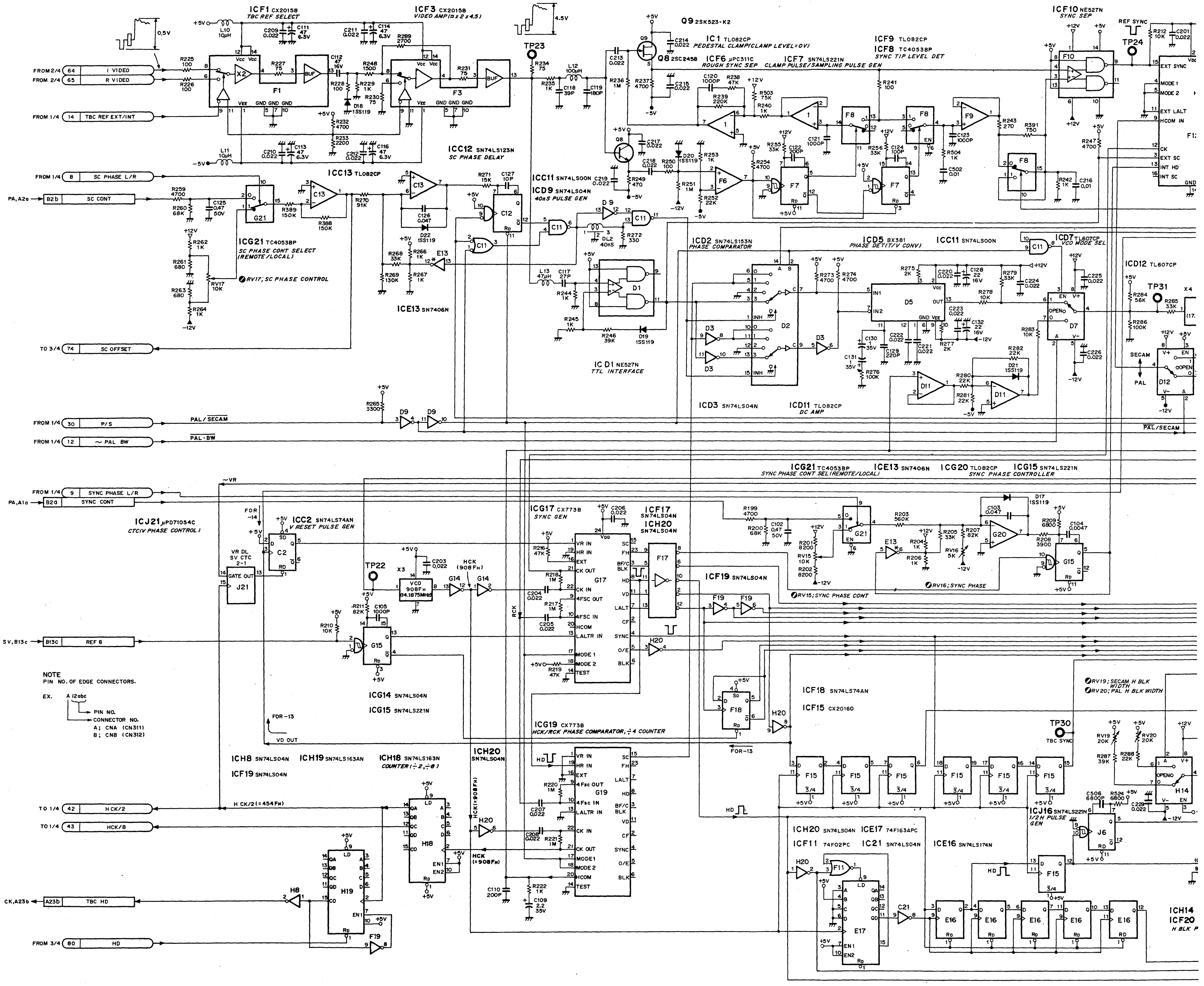

IC D3 SN74LS04N
IC C1 HD10124
IC A2 SN74LS123N IC A1 SN7406N IC B3 TL082CP
Fsc DELAY
IC B4 SN74LS00N
20nS PULSE GEN
IC B8 74F00PC IC B6 TL082CP Q10 2SA1048 IC B9 NE527N
Q11 2SC2901
VELOCITY ERROR MODULATOR
IC B8 74F00PC
Q12 2SC2901 FL1 17.7MHz BPF
×4(1/4 RD CK → RD CK)
IC C5 NE527N
IC B4 SN74LS00N
RD CK SELECTOR
PAL: 4Fsc, SECAM: 1135FH
IC C4 SN74LS74AN
REF SC GEN(÷4)
IC C1 HD10124
RD FSC (+) A18a PR, A18a
RD FSC (−) A18b PR, A18b
REF CK (+) A19a PR, A19a
REF CK (−) A19b PR, A19b
IC A2 SN74LS123N
IC B3 TL082CP
SC DELAY (REF CK GEN)
(BURST/CHROMA PHASE CONT)
IC A1 SN7406N
TP27
TP25
REF SC B5a CK, B4a
RD CK (−) A25b PR, CK, A25b
RD CK (+) A25a PR, CK, A25a
1/4 RD CK
VELO ERROR
RV24; ENCODE PRESET
RV25; DECODE PRESET
RV26; SAWTOOTH WAVE LEVEL
IC F20 SN74LS221N IC F21 H11-0201-5 IC E19 TL082CP
V SAWTOOTH WAVE GENERATOR
IC E21 TL082CP
DC AMP
IC E19 TL082CP Q14 2SA1048-GR
IC C21 SN74LS04N Q13 2SC2901
H SAWTOOTH WAVE GEN
IC D20 μPC319C
PAL H GENERATOR
(PAL OFFSET REJECT)
IC D19 SN74LS74AN IC C19 SN74LS00N
SC-H PHASE COMPARATOR
IC C17 BX-381
T/V CONV
(TBC REF SCH DET)
IC F21 H11-0201-5
SC PHASE CONT
RV28; H MOD ADJ
RV27; REF CF ADJ
IC B20 SN74LS74AN IC E14 SN74LS86AN
IC F16 IC E15 IC F19 IC F18
SN74LS74AN 74F193PC SN74LS04N SN74LS74AN
÷4(RD CK → RCK/4)
TP33
TP36
PAL H
TBC REF SCH 36 TO 1/4
FROM 1/4 48 ~ CF RESET
IC F19 SN74LS04N
IC C15 SN74LS02N
IC F21 H11-0201-5
IC D16 SN74LS163AN
IC D14 SN74LS163AN
READ ZERO GEN
IC D21 SN74LS02N
FROM 1/4 56 READ ZERO JUMP
IC D21 SN74LS02N
PAL H/HD SELECT
IC J21 μPD71054C
IC C20 SN74LS00N
IC C21 SN74LS00N
CTC(H DELAY)
IC D15 74F20PC
IC J19 μPD71054C IC E14 SN74LS86AN
CTC
Y ADD GATE PULSE GEN
IC B16 H11-0201-5
VELO ERROR RESET
TP32
TP26
VELOCITY ERROR
FROM 1/4 60 VPF1
PR, A24c A24c READ ZERO SHIFT
FROM 1/4 61 VPF2
READ ZERO 1 A24a PR, CK, A24a
Y ADD GATE B10b PR, B10b
UMSC A21a PR, A21a
REF VN B10c PR, CK, B10c
IC D3 SN74LS04N
IC E14 SN74LS86AN
IC C21 SN74LS00N
FROM 4/4 81 VIDN
FROM 4/4 82 VD OUT
SECAM V ID
IC J18 μPD71054C IC C14 SN74LS00N IC C21 SN74LS04N IC J19 μPD71054C
CTC CTC
SECAM UMSC GEN VD DELAY(REF VN GEN)
H11-0201-5 IC B14 TL082CP IC B12 TL082CP
VELOCITY ERROR INTERPOLATOR
IC B12 TL082CP
TBC FRAME 67 TO 2/4
IC C2 SN74LS74AN
IC G14 SN74LS04N
DP VIDEO
~ O/E OUT
FROM 4/4 83 SYNC OUT

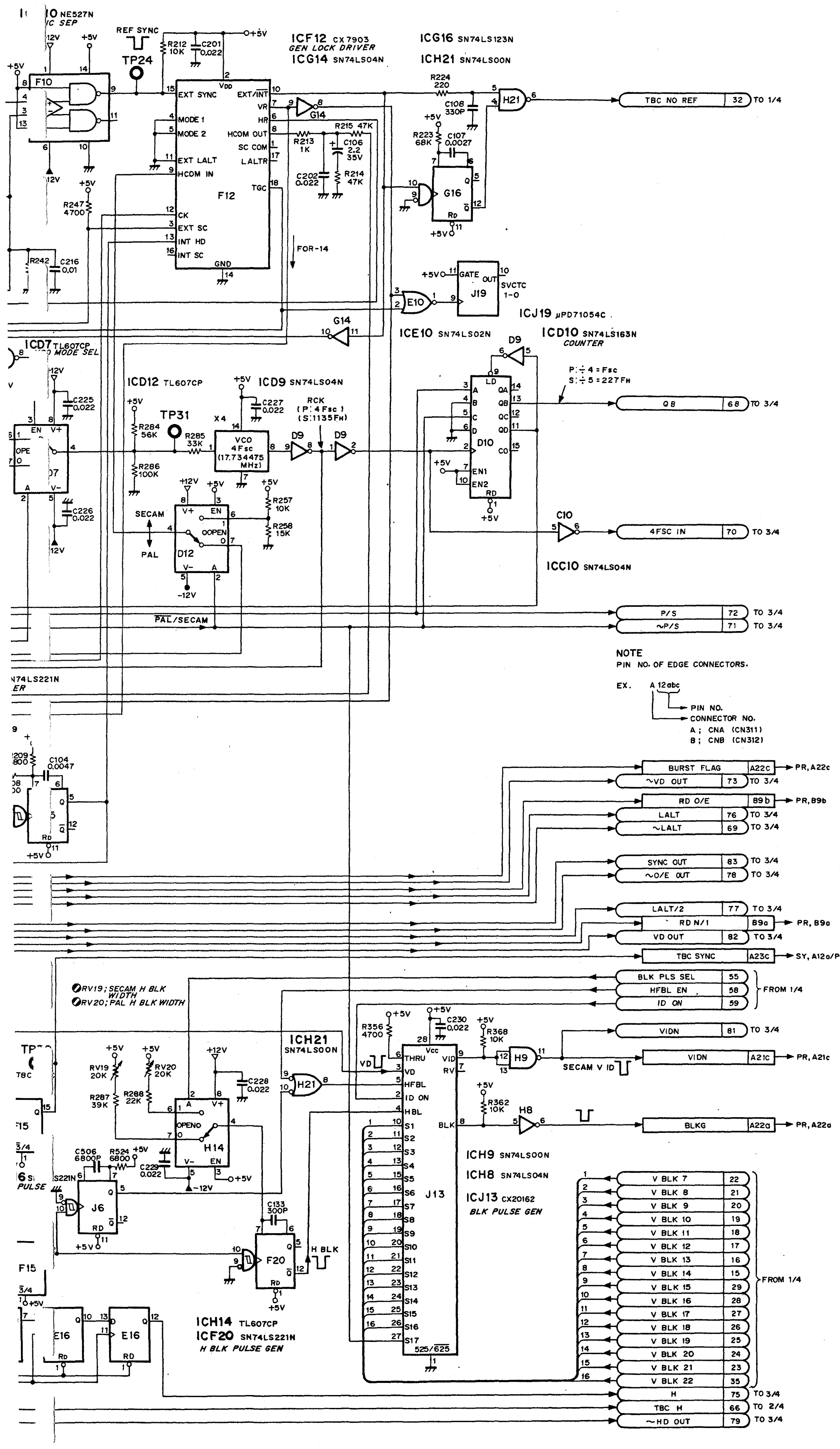
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12 abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)

RD-7 BOARD (3/4)
BOARD NO. 1-621-748-13,14
BVH-3000PS; #10501-
BVH-3100PS; #10701-

RD-7 BOARD (4/4)

TBC Reference Signal Generator (Part 2)


ICF1 CX20158 TBC REF SELECT
ICF3 CX20158 VIDEO AMP(×2×4.5)
Q9 2SK523-K2
IC1 TL082CP PEDESTAL CLAMP(CLAMP LEVEL=0V)
Q8 2SC2458
ICF6 μPC311C ROUGH SYNC SEP
ICF7 SN74LS221N CLAMP PULSE/SAMPLING PULSE GEN
ICF9 TL082CP
ICF8 TC4053BP SYNC TIP LEVEL DET
ICF10 NE527N SYNC SEP
TP23
TP24
FROM 2/4 64 I VIDEO
FROM 2/4 65 R VIDEO
FROM 1/4 14 TBC REF EXT/INT
FROM 1/4 8 SC PHASE L/R
PA,A2a B2b SC CONT
ICC12 SN74LS123N SC PHASE DELAY
ICC13 TL082CP
ICC11 SN74LS00N
ICD9 SN74LS04N 40nS PULSE GEN
ICG21 TC4053BP SC PHASE CONT SELECT (REMOTE/LOCAL)
RV17; SC PHASE CONTROL
ICE13 SN7406N
ICD1 NE527N TTL INTERFACE
ICD2 SN74LS153N PHASE COMPARATOR
ICD5 BX381 PHASE DET(T/V CONV)
ICC11 SN74LS00N
ICD7 TL607CP VCO MODE SEL
ICD12 TL607CP
TP31
ICD3 SN74LS04N
ICD11 TL082CP DC AMP
TO 3/4 74 SC OFFSET
FROM 1/4 30 P/S
FROM 1/4 12 ~PAL BW
PAL/SECAM
PAL-BW
ICG21 TC4053BP SYNC PHASE CONT SEL(REMOTE/LOCAL)
ICE13 SN7406N
ICG20 TL082CP SYNC PHASE CONTROLLER
ICG15 SN74LS221N
FROM 1/4 9 SYNC PHASE L/R
PA,A1a B2a SYNC CONT
ICJ21 μPD71054C CTC(V PHASE CONTROL)
ICC2 SN74LS74AN V RESET PULSE GEN
ICG17 CX773B SYNC GEN
ICF17 SN74LS04N
ICH20 SN74LS04N
ICF19 SN74LS04N
RV15; SYNC PHASE CONT
RV16; SYNC PHASE
TP22
X3 VCO 908FH (14.1875MHz)
HCK (908FH)
SV,B13c B13c REF 8
ICG14 SN74LS04N
ICG15 SN74LS221N
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN311)
B; CNB (CN312)
ICG19 CX773B HCK/RCK PHASE COMPARATOR, ÷4 COUNTER
ICF18 SN74LS74AN
ICF15 CX20160
RV19; SECAM H BLK WIDTH
RV20; PAL H BLK WIDTH
TP30 TBC SYNC
ICH8 SN74LS04N
ICH19 SN74LS163AN
ICH18 SN74LS163N COUNTER(÷2,÷8)
ICH20 SN74LS04N
ICF19 SN74LS04N
TO 1/4 42 HCK/2
TO 1/4 43 HCK/8
H CK/2(=454FH)
HCK (=908FH)
CK,A23b A23b TBC HD
FROM 3/4 80 HD
ICH20 SN74LS04N
ICE17 74F163APC
ICF11 74F02PC
ICE21 SN74LS04N
ICE16 SN74LS174N
ICJ16 SN74LS221N 1/2H PULSE GEN
ICH14
ICF20 H BLK P

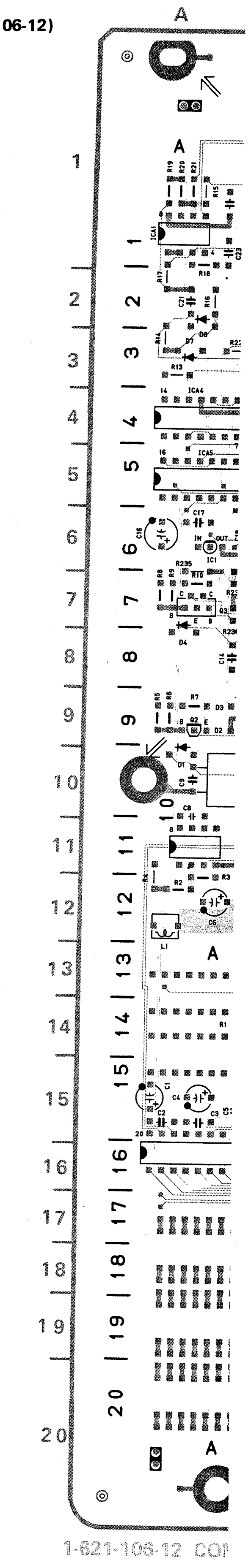

NE527N
REF SYNC
TP24
ICF12 CX7903
GEN LOCK DRIVER
ICG14 SN74LS04N
ICG16 SN74LS123N
ICH21 SN74LS00N
F10
F12
EXT SYNC
MODE 1
MODE 2
EXT LALT
HCOM IN
CK
EXT SC
INT HD
INT SC
EXT/INT
VR
HP
HCOM OUT
SC COM
LALTR
TGC
GND
FOR-14
R212 10K
C201 0.022
R224 220
R213 1K
R215 47K
C106 2.2 35V
C202 0.022
R214 47K
C108 330P
R223 68K
C107 0.0027
G16
H21
TBC NO REF
32
TO 1/4
R247 4700
R242
C216 0.01
J19
GATE
OUT
SVCTC 1-0
ICJ19 μPD71054C
E10
ICE10 SN74LS02N
G14
ICD10 SN74LS163N
COUNTER
D9
D10
LD
QA
QB
QC
QD
CO
EN1
EN2
RD
P: ÷ 4 = Fsc
S: ÷ 5 = 227 FH
QB
68
TO 3/4
ICD7 TL607CP
MODE SEL
ICD12 TL607CP
ICD9 SN74LS04N
TP31
X4
VCO
4 Fsc
(17.734475 MHz)
RCK
(P: 4 Fsc)
(S: 1135 FH)
R284 56K
R285 33K
R286 100K
C227 0.022
C225 0.022
C226 0.022
SECAM
PAL
D12
OOPEN
R257 10K
R258 15K
C10
4FSC IN
70
TO 3/4
ICC10 SN74LS04N
P/S
72
~P/S
71
PAL/SECAM
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A ; CNA (CN311)
B ; CNB (CN312)
SN74LS221N
C104 0.0047
BURST FLAG
A22c
PR, A22c
~VD OUT
73
RD O/E
B9b
PR, B9b
LALT
76
~LALT
69
SYNC OUT
83
~O/E OUT
78
LALT/2
77
RD N/1
B9a
PR, B9a
VD OUT
82
TBC SYNC
A23c
SY, A12a/PR, A23c
BLK PLS SEL
55
HFBL EN
58
ID ON
59
FROM 1/4
RV19; SECAM H BLK WIDTH
RV20; PAL H BLK WIDTH
ICH21 SN74LS00N
R356 4700
C230 0.022
R368 10K
H9
VIDN
81
A21c
PR, A21c
SECAM V ID
R362 10K
H8
BLKG
A22a
PR, A22a
THRU
VD
HFBL
ID ON
HBL
VID
RV
BLK
J13
525/625
ICH9 SN74LS00N
ICH8 SN74LS04N
ICJ13 CX20162
BLK PULSE GEN
V BLK 7
22
V BLK 8
21
V BLK 9
20
V BLK 10
19
V BLK 11
18
V BLK 12
17
V BLK 13
16
V BLK 14
15
V BLK 15
29
V BLK 16
28
V BLK 17
27
V BLK 18
26
V BLK 19
25
V BLK 20
24
V BLK 21
23
V BLK 22
35
H
75
TBC H
66
TO 2/4
~HD OUT
79
RV19 20K
RV20 20K
R287 39K
R288 22K
C228 0.022
C229 0.022
H14
OPENO
C506 6800P
R524 6800
J6
C133 300P
F20
H BLK
ICH14 TL607CP
ICF20 SN74LS221N
H BLK PULSE GEN
E16
F15
TBC

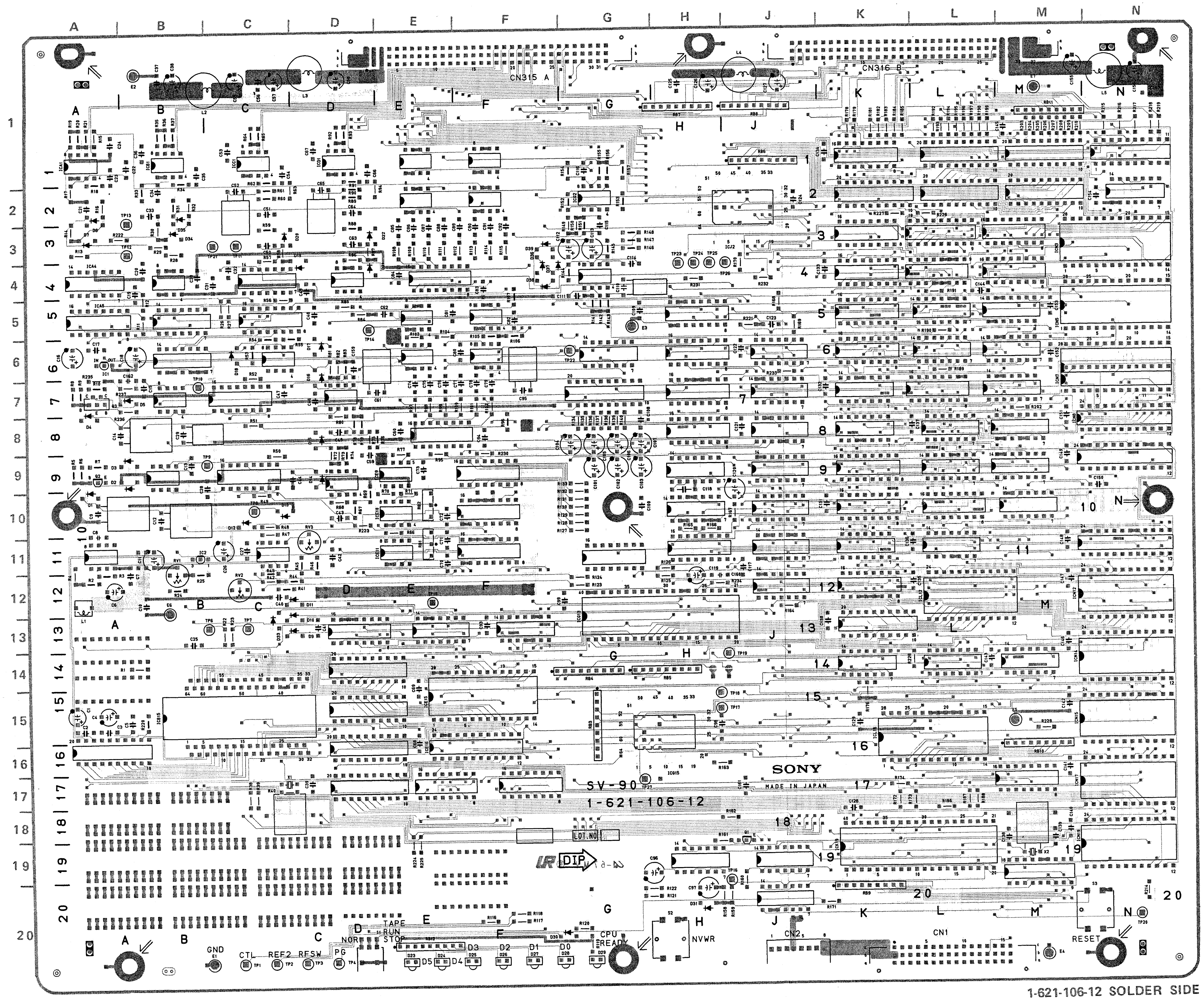
RD-7 BOARD (4/4)

BOARD NO. 1-621-748-13,14
BVH-3000PS; #10501-
BVH-3100PS, #10701-

SV-90 BOARD (1-621-106-12)

Component Side


A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
ICA4
ICA5
IC1
C17
C16
C14
C8
C6
C1
C4
C3
R15
R18
R13
R235
R1
R2
R3
R7
D1
D2
D3
D4
L1
IN
OUT
1-621-106-12 CO


A
B
C
D
E
F
G
H
J
K
L
M
N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
CN315 A
CN316 B
SONY
SV-90
1-621-106-12
MADE IN JAPAN
LOT.NO
DIP
GND
CTL
REF2
RFSW
PG
TAPE
RUN
STOP
NOR
CPU
READY
NVWR
RESET
CN2
CN1
D5
D4
D3
D2
D1
D0

1-621-106-12 SOLDER SIDE

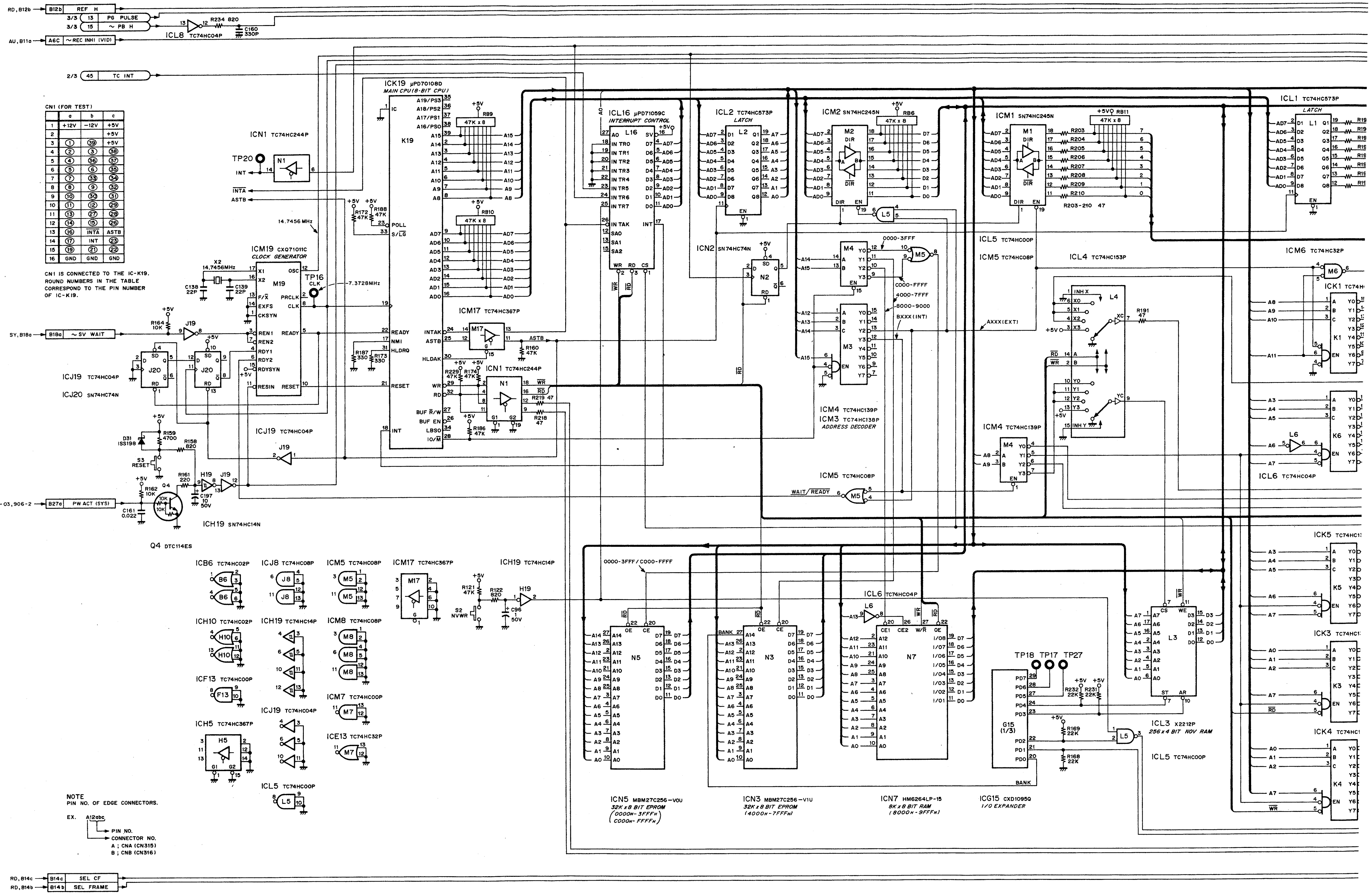
SV-90 (1-621-106-12)

BVH-3000/PS
BVH-3100/PS

CN1	L20	TP1	C20
CN2	J20	TP2	C20
CN315	F1	TP3	C20
CN316	K1	TP4	D20
		TP6	B13
D1	A10	TP7	C13
D2	B9	TP8	C10
D3	B9	TP9	B9
D4	A8	TP10	B7
D5	B7	TP11	C3
D7	A3	TP12	B3
D8	A2	TP13	B2
D9	C13	TP14	D5
D10	C13	TP15	E12
D11	C12	TP16	H20
D12	C10	TP17	H15
D13	C10	TP18	H15
D14	D9	TP19	H14
D15	D8	TP20	N20
D16	D7	TP21	C3
D17	D6	TP22	G6
D18	C6	TP23	H4
D19	D4	TP24	H4
D20	C3	TP25	H4
D21	D4	TP26	J4
D22	D3	TP27	G17
D23	E20		
D24	E20	X1	C17
D25	E20	X2	M19
D26	F20		
D27	F20		
D28	F20		
D29	G20		
D30	F20		
D31	H20		
D33	C13		
D34	B3		
D35	B2		
D36	F4		
D37	F4		
D38	F4		
D39	F3		
E1	B20		
E2	B1		
E3	G5		
E4	M20		
E5	M15		
E6	B12		
E7	M1		
IC1	A6		
IC2	B11		
Q1	J19		
Q2	A9		
Q3	A7		
RB1	E11		
RB2	E10		
RB3	G15		
RB4	G14		
RB5	H14		
RB6	J1		
RB7	H1		
RB8	J1		
RB9	K20		
RB10	M16		
RB11	M1		
RB12	E20		
RV1	B12		
RV2	C12		
RV3	D11		
S1	D20		
S2	H20		
S3	N20		

SV-90 BOARD (1/3)

Servo, Logic Control


RD, B12b — B12b REF H
3/3 13 PG PULSE
3/3 15 ~ PB H
AU, B11a — A6C ~REC INHI (VID)
2/3 45 TC INT
ICL8 TC74HC04P
R234 820
C160 330P
ICK19 μPD70108D MAIN CPU(8-BIT CPU)
K19
ICN1 TC74HC244P
TP20
INT
INTA
ASTB
14.7456 MHz
ICM19 CXQ71011C CLOCK GENERATOR
M19
X2 14.7456MHz
C138 22P
C139 22P
TP16 CLK
7.3728MHz
SY, B18a — B18a ~SV WAIT
ICJ19 TC74HC04P
ICJ20 SN74HC74N
R164 10K
J19
J20
D31 1SS198
S3 RESET
R159 4700
R158 820
ICJ19 TC74HC04P
R161 220
H19
C197 10 50V
R162 10K
Q4
C161 0.022
SP-03,906-2 — B27d PW ACT (SYS)
ICH19 SN74HC14N
Q4 DTC114ES
R99 47K x 8
R810 47K x 8
R172 47K
R188 47K
R187 330
R173 330
ICM17 TC74HC367P
M17
R160 47K
R229 47K
R174 47K
ICN1 TC74HC244P
N1
R219 47
R218 47
R186 47K
ICL16 μPD71059C INTERRUPT CONTROL
L16
ICL2 TC74HC573P LATCH
L2
ICM2 SN74HC245N
M2
R86
ICM1 SN74HC245N
M1
R811 47K x 8
R203–R210
R203-210 47
ICL1 TC74HC573P LATCH
L1
ICN2 SN74HC74N
N2
M4
M5
0000-3FFF
C000-FFFF
4000-7FFF
8000-9000
BXXX(INT)
AXXX(EXT)
ICL5 TC74HC00P
ICM5 TC74HC08P
ICL4 TC74HC153P
L4
R191 47
ICM6 TC74HC32P
M6
ICK1 TC74H
K1
M3
ICM4 TC74HC139P
ICM3 TC74HC138P ADDRESS DECODER
ICM4 TC74HC139P
K6
L6
ICL6 TC74HC04P
ICM5 TC74HC08P
WAIT/READY
ICK5 TC74HC
K5
ICK3 TC74HC
K3
ICK4 TC74HC
K4
ICB6 TC74HC02P
ICJ8 TC74HC08P
ICM5 TC74HC08P
ICM17 TC74HC367P
ICH19 TC74HC14P
ICH10 TC74HC02P
ICH19 TC74HC14P
ICM8 TC74HC08P
ICF13 TC74HC00P
ICM7 TC74HC00P
ICH5 TC74HC367P
H5
ICJ19 TC74HC04P
ICE13 TC74HC32P
ICL5 TC74HC00P
R121 47K
R122 820
C96 1 50V
S2 NVWR
0000-3FFF/C000-FFFF
N5
N3
ICL6 TC74HC04P
N7
TP18 TP17 TP27
G15 (1/3)
R232 22K
R231 22K
R169 22K
R168 22K
BANK
L5
ICL3 X2212P 256 x 4 BIT NOV RAM
L3
ICL5 TC74HC00P
ICN5 MBM27C256-V0U 32K x 8 BIT EPROM (0000H-3FFFH) (C000H-FFFFH)
ICN3 MBM27C256-V1U 32K x 8 BIT EPROM (4000H-7FFFH)
ICN7 HM6264LP-15 8K x 8 BIT RAM (8000H-9FFFH)
ICG15 CXD1095Q I/O EXPANDER
RD, B14c — B14c SEL CF
RD, B14b — B14b SEL FRAME

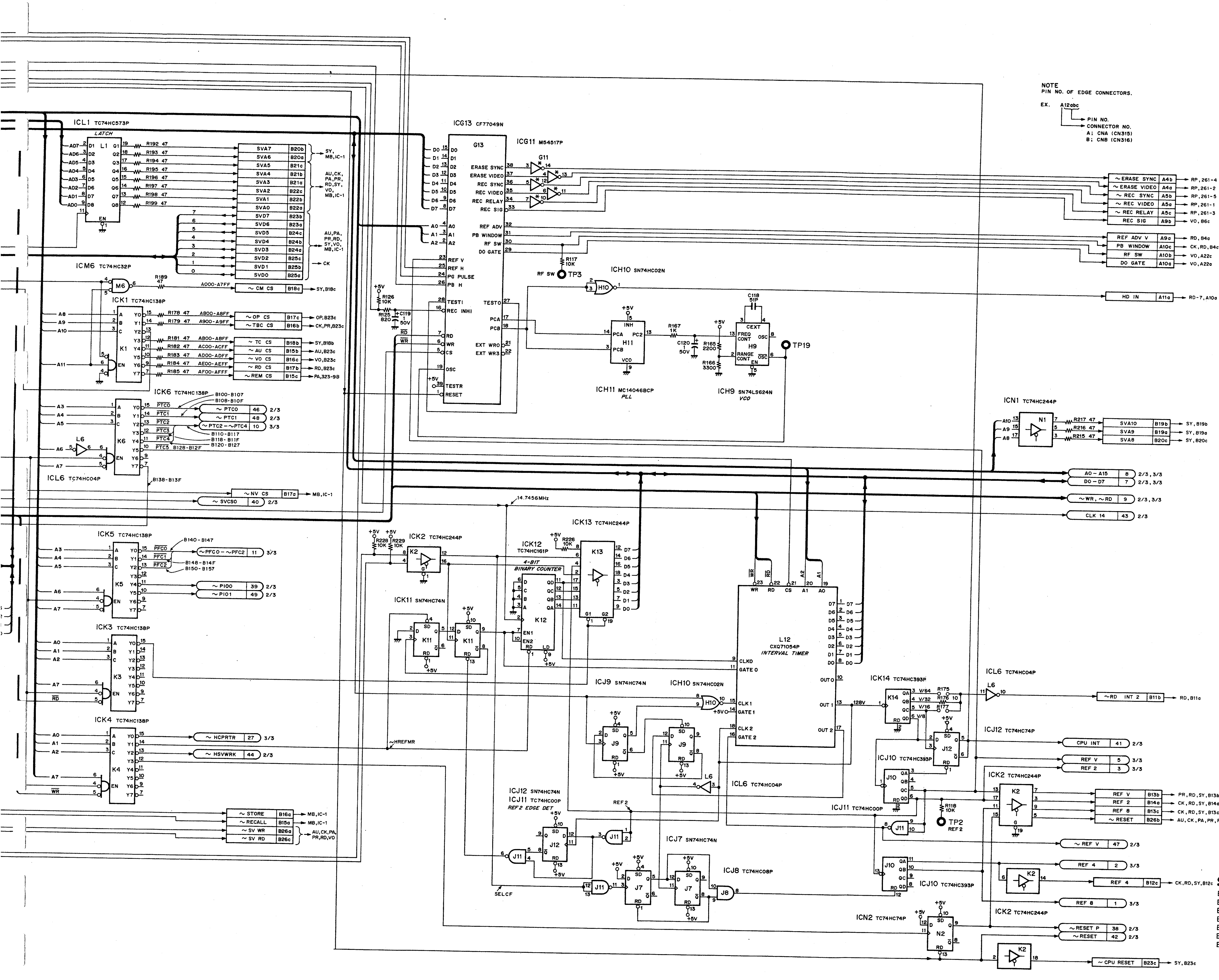
CN1 (FOR TEST)

	a	b	c
1	+12V	−12V	+5V
2			+5V
3	①	㊴	+5V
4	②	③	㊳
5	④	㊱	㊲
6	⑤	⑥	㉟
7	⑦	㉝	㉞
8	⑧	⑨	㉜
9	⑩	㉚	㉛
10	⑪	⑫	㉙
11	⑬	㉗	㉘
12	⑭	⑮	㉖
13	⑯	$\overline{\text{INTA}}$	ASTB
14	⑰	INT	㉓
15	⑲	㉑	㉒
16	GND	GND	GND

CN1 IS CONNECTED TO THE IC-K19. ROUND NUMBERS IN THE TABLE CORRESPOND TO THE PIN NUMBER OF IC-K19.

NOTE
PIN NO. OF EDGE CONNECTORS.

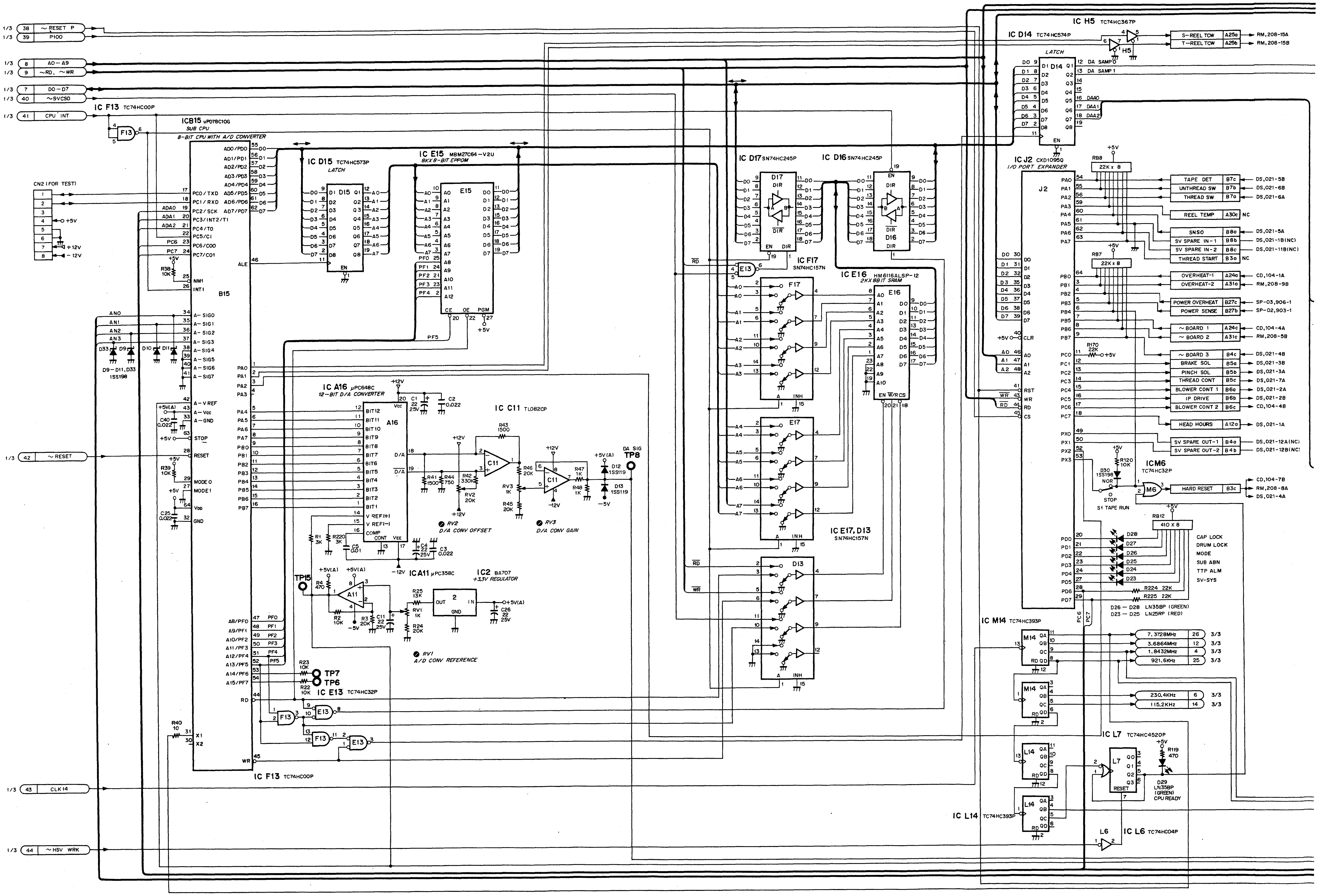
EX. A12abc
12abc → PIN NO.
A → CONNECTOR NO.
A ; CNA (CN315)
B ; CNB (CN316)


NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN315)
B; CNB (CN316)
ICL1 TC74HC573P
LATCH
ICM6 TC74HC32P
ICK1 TC74HC138P
ICK6 TC74HC138P
ICL6 TC74HC04P
ICK5 TC74HC138P
ICK3 TC74HC138P
ICK4 TC74HC138P
ICG13 CF77049N
ICG11 M54517P
ICH10 SN74HC02N
ICH11 MC14046BCP
PLL
ICH9 SN74LS624N
VCO
ICN1 TC74HC244P
ICK13 TC74HC244P
ICK12 TC74HC161P
4-BIT BINARY COUNTER
ICK2 TC74HC244P
ICK11 SN74HC74N
ICJ9 SN74HC74N
ICH10 SN74HC02N
L12 CXQ71054P
INTERVAL TIMER
ICK14 TC74HC393P
ICJ12 TC74HC74P
ICJ10 TC74HC393P
ICJ11 TC74HC00P
ICJ12 SN74HC74N
ICJ11 TC74HC00P
REF 2 EDGE DET
ICJ7 SN74HC74N
ICJ8 TC74HC08P
ICN2 TC74HC74P
ICK2 TC74HC244P
RF SW
TP3
TP19
TP2
REF 2
14.7456MHz
HREFMR
SELCF
~ERASE SYNC A4b
~ERASE VIDEO A4a
~REC SYNC A5b
~REC VIDEO A5a
~REC RELAY A5c
REC SIG A9b
REF ADV V A9a
PB WINDOW A10c
RF SW A10b
DO GATE A10a
HD IN A11a
~CM CS B18c
~OP CS B17c
~TBC CS B16b
~TC CS B18b
~AU CS B15b
~VO CS B16c
~RD CS B17b
~REM CS B15c
~NV CS B17a
~SVCS0 40
SVA10 B19b
SVA9 B19a
SVA8 B20c
A0 - A15 8
D0 - D7 7
~WR, ~RD 9
CLK 14 43
~RD INT 2 B11b
CPU INT 41
REF V 5
REF 2 3
REF V B13b
REF 2 B14a
REF 8 B13c
~RESET B26b
~REF V 47
REF 4 2
REF 4 B12c
REF 8 1
~RESET P 38
~RESET 42
~CPU RESET B23c
~PTC0 46
~PTC1 48
~PTC2 - ~PTC4 10
~PFC0 - ~PFC2 11
~PI00 39
~PI01 49
~HCPRTR 27
~HSVWRK 44
~STORE B16a
~RECALL B15a
~SV WR B26a
~SV RD B26c

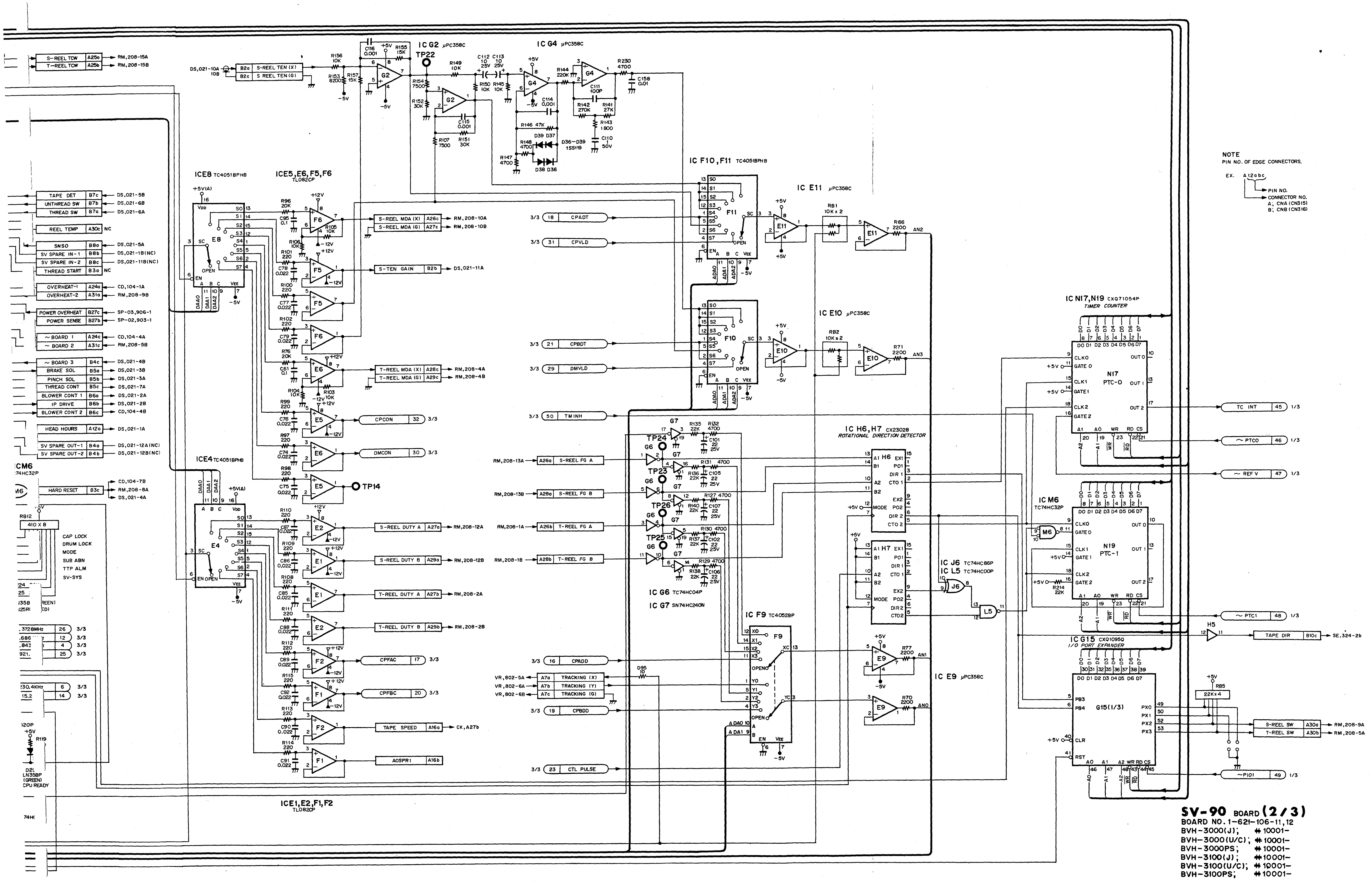
SV-90(1/3) BOARD
BOARD NO. 1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000 PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100 PS; #10001-

SV-90 BOARD (2/3)

Servo, Logic Control



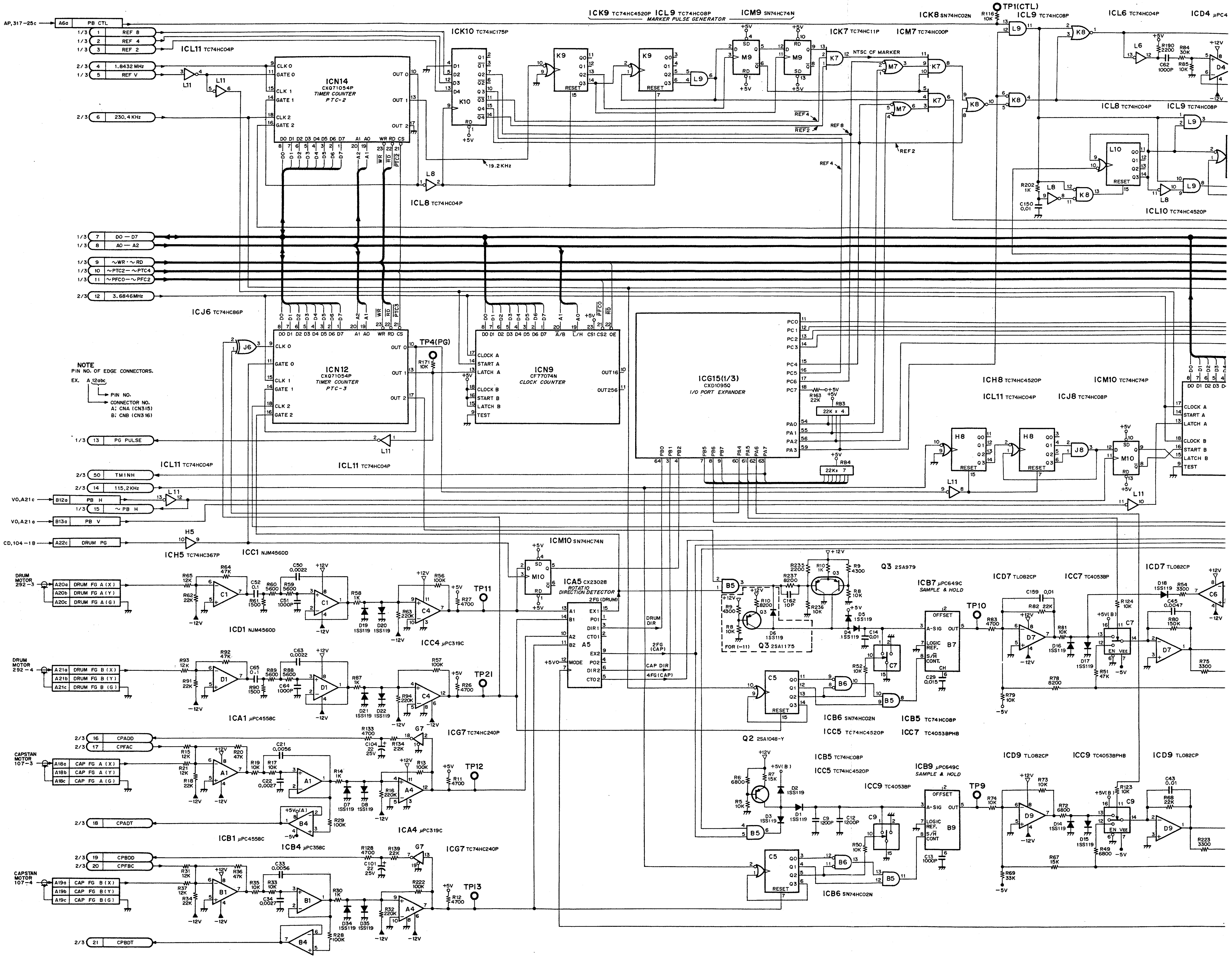
~RESET P
P100
A0 – A9
~RD, ~WR
D0 – D7
~SVCS0
CPU INT
IC F13 TC74HC00P
ICB15 μPD78C10G
SUB CPU
8-BIT CPU WITH A/D CONVERTER
CN2 (FOR TEST)
IC D15 TC74HC573P
LATCH
IC E15 MBM27C64-V2U
8K X 8-BIT EPROM
IC D17 SN74HC245P
IC D16 SN74HC245P
IC D14 TC74HC574P
LATCH
IC H5 TC74HC367P
S-REEL TCW
T-REEL TCW
IC J2 CXD1095Q
I/O PORT EXPANDER
IC F17 SN74HC157N
IC E16 HM6116ALSP-12
2K X 8 BIT SRAM
IC E17, D13 SN74HC157N
IC A16 μPC648C
12-BIT D/A CONVERTER
IC C11 TL082CP
RV2 D/A CONV OFFSET
RV3 D/A CONV GAIN
DA SIG TP8
IC A11 μPC358C
IC2 BA707
+3.3V REGULATOR
RV1 A/D CONV REFERENCE
TP15
TP7
TP6
IC E13 TC74HC32P
~RESET
CLK14
~HSV WRK
TAPE DET
UNTHREAD SW
THREAD SW
REEL TEMP
SNSO
SV SPARE IN-1
SV SPARE IN-2
THREAD START
OVERHEAT-1
OVERHEAT-2
POWER OVERHEAT
POWER SENSE
~BOARD 1
~BOARD 2
~BOARD 3
BRAKE SOL
PINCH SOL
THREAD CONT
BLOWER CONT 1
IP DRIVE
BLOWER CONT 2
HEAD HOURS
SV SPARE OUT-1
SV SPARE OUT-2
ICM6 TC74HC32P
HARD RESET
STOP
S1 TAPE RUN
CAP LOCK
DRUM LOCK
MODE
SUB ABN
TTP ALM
SV-SYS
D26 – D28 LN35BP (GREEN)
D23 – D25 LN25RP (RED)
IC M14 TC74HC393P
7.3728MHz
3.6864MHz
1.8432MHz
921.6kHz
230.4kHz
115.2kHz
IC L7 TC74HC4520P
D29 LN35BP (GREEN) CPU READY
IC L14 TC74HC393P
IC L6 TC74HC04P

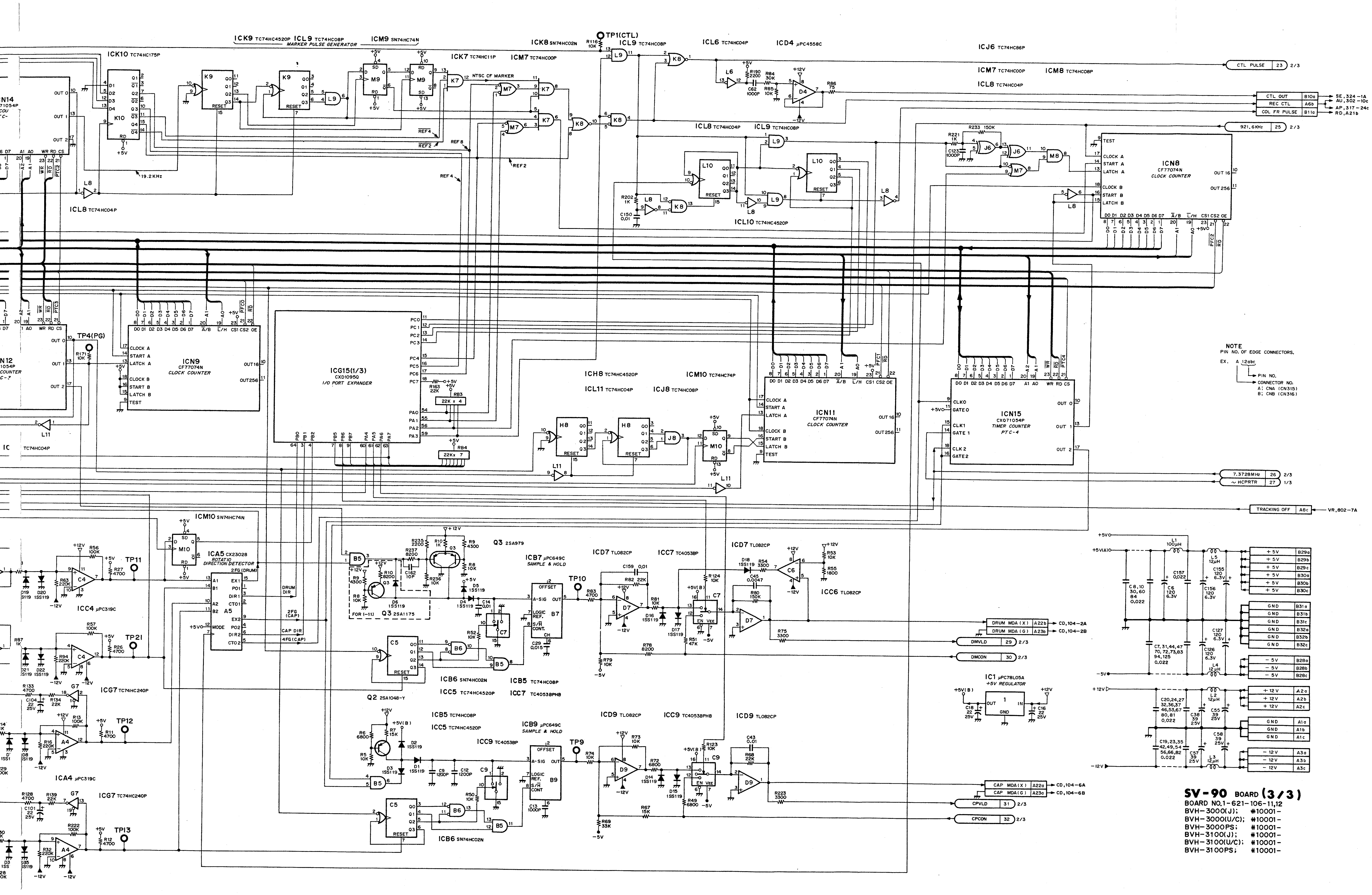

IC G2 μPC358C
TP22
IC G4 μPC358C
S-REEL TCW A25a RM,208-15A
T-REEL TCW A25b RM,208-15B
DS,021-10A 10B
B2a S-REEL TEN (X)
B2c S REEL TEN (G)
ICE8 TC4051BPHB
ICE5,E6,F5,F6 TL082CP
IC F10,F11 TC4051BPHB
IC E11 μPC358C
IC E10 μPC358C
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN315)
B; CNB (CN316)
TAPE DET B7c DS,021-5B
UNTHREAD SW B7b DS,021-6B
THREAD SW B7a DS,021-6A
REEL TEMP A30c NC
SNSO B8a DS,021-5A
SV SPARE IN-1 B8b DS,021-11B(NC)
SV SPARE IN-2 B8c DS,021-11B(NC)
THREAD START B3a NC
OVERHEAT-1 A24a CD,104-1A
OVERHEAT-2 A31a RM,208-9B
POWER OVERHEAT B27c SP-03,906-1
POWER SENSE B27b SP-02,903-1
~BOARD 1 A24c CD,104-4A
~BOARD 2 A31c RM,208-5B
~BOARD 3 B4c DS,021-4B
BRAKE SOL B5a DS,021-3B
PINCH SOL B5b DS,021-3A
THREAD CONT B5c DS,021-7A
BLOWER CONT 1 B6a DS,021-2A
IP DRIVE B6b DS,021-2B
BLOWER CONT 2 B6c CD,104-4B
HEAD HOURS A12a DS,021-1A
SV SPARE OUT-1 B4a DS,021-12A(NC)
SV SPARE OUT-2 B4b DS,021-12B(NC)
CM6 74HC32P
HARD RESET B3c CD,104-7B RM,208-8A DS,021-4A
ICE4 TC4051BPHB
CAP LOCK
DRUM LOCK
MODE
SUB ABN
TTP ALM
SV-SYS
S-REEL MDA (X) A26c RM,208-10A
S-REEL MDA (G) A27c RM,208-10B
S-TEN GAIN B2b DS,021-11A
T-REEL MDA (X) A28c RM,208-4A
T-REEL MDA (G) A29c RM,208-4B
CPCON 32 3/3
DMCON 30 3/3
TP14
S-REEL DUTY A A27a RM,208-12A
S-REEL DUTY B A29a RM,208-12B
T-REEL DUTY A A27b RM,208-2A
T-REEL DUTY B A29b RM,208-2B
CPFAC 17 3/3
CPFBC 20 3/3
TAPE SPEED A16a CK,A27b
AOSPR1 A16b
ICE1,E2,F1,F2 TL082CP
3/3 18 CPADT
3/3 31 CPVLD
3/3 21 CPBDT
3/3 29 DMVLD
3/3 50 TMINH
AN2
AN3
IC N17,N19 CXQ71054P TIMER COUNTER
N17 PTC-0
N19 PTC-1
TC INT 45 1/3
~PTC0 46 1/3
~REF V 47 1/3
~PTC1 48 1/3
IC H6,H7 CX23028 ROTATIONAL DIRECTION DETECTOR
IC M6 TC74HC32P
RM,208-13A A26a S-REEL FG A
RM,208-13B A28a S-REEL FG B
RM,208-1A A26b T-REEL FG A
RM,208-1B A28b T-REEL FG B
TP24 TP23 TP26 TP25
IC G6 TC74HC04P
IC G7 SN74HC240N
IC J6 TC74HC86P
IC L5 TC74HC00P
IC F9 TC4052BP
H5
TAPE DIR B10c SE,324-2b
IC G15 CXQ10950 I/O PORT EXPANDER
G15(1/3)
3/3 16 CPADD
VR,802-5A A7a TRACKING (X)
VR,802-6A A7b TRACKING (Y)
VR,802-6B A7c TRACKING (G)
3/3 19 CPBDD
3/3 23 CTL PULSE
AN1
AN0
IC E9 μPC358C
S-REEL SW A30a RM,208-9A
T-REEL SW A30b RM,208-5A
~PI01 49 1/3
RB5 22K×4
D21 LN358P (GREEN) CPU READY
R119
3.7728MHz 26 3/3
12 3/3
4 3/3
25 3/3
30.4KHz 6 3/3
14 3/3

SV-90 BOARD **(2/3)**
BOARD NO. 1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

SV-90 BOARD (3/3)

Servo, Logic Control


PB CTL
REF 8
REF 4
REF 2
1.8432 MHz
REF V
230.4 KHz
D0 — D7
A0 — A2
~WR·~RD
~PTC2—~PTC4
~PFC0—~PFC2
3.6846MHz
PG PULSE
TMINH
115.2KHz
PB H
~PB H
PB V
DRUM PG
DRUM FG A (X)
DRUM FG A (Y)
DRUM FG A (G)
DRUM FG B (X)
DRUM FG B (Y)
DRUM FG B (G)
CPADD
CPFAC
CAP FG A (X)
CAP FG A (Y)
CAP FG A (G)
CPADT
CPBDD
CPFBC
CAP FG B (X)
CAP FG B (Y)
CAP FG B (G)
CPBDT
DRUM MOTOR 292-3
DRUM MOTOR 292-4
CAPSTAN MOTOR 107-3
CAPSTAN MOTOR 107-4
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A: CNA (CN315)
B: CNB (CN316)
ICL11 TC74HC04P
ICN14 CXQ71054P TIMER COUNTER PTC-2
ICK10 TC74HC175P
ICK9 TC74HC4520P
ICL9 TC74HC08P
MARKER PULSE GENERATOR
ICM9 SN74HC74N
ICK7 TC74HC11P
ICM7 TC74HC00P
NTSC CF MARKER
ICK8 SN74HC02N
TP1(CTL)
ICL6 TC74HC04P
ICD4 μPC4
ICL8 TC74HC04P
ICL10 TC74HC4520P
ICJ6 TC74HC86P
ICN12 CXQ71054P TIMER COUNTER PTC-3
TP4(PG)
ICN9 CF77074N CLOCK COUNTER
ICG15(1/3) CXD10950 I/O PORT EXPANDER
ICH8 TC74HC4520P
ICL11 TC74HC04P
ICJ8 TC74HC08P
ICM10 TC74HC74P
ICH5 TC74HC367P
ICC1 NJM4560D
ICD1 NJM4560D
ICM10 SN74HC74N
ICA5 CX23028 ROTATIO DIRECTION DETECTOR
ICC4 μPC319C
TP11
TP21
ICA1 μPC4558C
ICG7 TC74HC240P
TP12
ICB1 μPC4558C
ICB4 μPC358C
ICA4 μPC319C
TP13
DRUM DIR
2FG (CAP)
CAP DIR
4FG (CAP)
Q3 2SA979
FOR (-11)
Q3 2SA1175
ICB7 μPC649C SAMPLE & HOLD
TP10
ICD7 TL082CP
ICC7 TC4053BP
ICB6 SN74HC02N
ICB5 TC74HC08P
ICC5 TC74HC4520P
ICC7 TC4053BPHB
Q2 2SA1048-Y
ICB9 μPC649C SAMPLE & HOLD
ICC9 TC4053BP
TP9
ICD9 TL082CP
ICC9 TC4053BPHB
ICB6 SN74HC02N

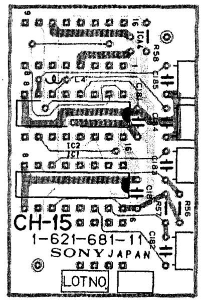

ICK9 TC74HC4520P
ICL9 TC74HC08P
MARKER PULSE GENERATOR
ICM9 SN74HC74N
ICK10 TC74HC175P
ICK8 SN74HC02N
ICK7 TC74HC11P
ICM7 TC74HC00P
TP1(CTL)
ICL9 TC74HC08P
ICL6 TC74HC04P
ICD4 μPC4558C
ICJ6 TC74HC86P
ICM7 TC74HC00P
ICM8 TC74HC08P
ICL8 TC74HC04P
ICL9 TC74HC08P
ICL10 TC74HC4520P
ICN8 CF77074N CLOCK COUNTER
ICL8 TC74HC04P
NTSC CF MARKER
REF2
REF4
REF8
19.2KHz
CTL PULSE 23 2/3
CTL OUT B10a
REC CTL A6b
COL FR PULSE B11d
SE,324-1A
AU,302-10c
AP,317-24c
RD,A21b
921.6KHz 25 2/3
TP4(PG)
ICN9 CF77074N CLOCK COUNTER
ICG15(1/3) CXD1095Q I/O PORT EXPANDER
ICH8 TC74HC4520P
ICM10 TC74HC74P
ICL11 TC74HC04P
ICJ8 TC74HC08P
ICN11 CF77074N CLOCK COUNTER
ICN15 CXQ71054P TIMER COUNTER PTC-4
7.3728MHz 26 2/3
~HCPRTR 27 1/3
TRACKING OFF A6c VR,802-7A
ICM10 SN74HC74N
ICA5 CX23028 ROTATION DIRECTION DETECTOR
TP11
TP21
TP12
TP13
ICC4 μPC319C
ICG7 TC74HC240P
ICA4 μPC319C
Q3 2SA979
Q3 2SA1175
ICB7 μPC649C SAMPLE & HOLD
TP10
ICD7 TL082CP
ICC7 TC4053BP
ICC6 TL082CP
DRUM DIR
2FG (CAP)
CAP DIR
4FG(CAP)
ICB6 SN74HC02N
ICB5 TC74HC08P
ICC5 TC74HC4520P
ICC7 TC4053BPHB
DRUM MDA (X) A22b CD,104-2A
DRUM MDA (G) A23b CD,104-2B
DMVLD 29 2/3
DMCON 30 2/3
Q2 2SA1048-Y
ICB5 TC74HC08P
ICC5 TC74HC4520P
ICC9 TC4053BP
ICB9 μPC649C SAMPLE & HOLD
TP9
ICD9 TL082CP
ICC9 TC4053BPHB
ICD9 TL082CP
CAP MDA (X) A22a CD,104-6A
CAP MDA (G) A23a CD,104-6B
CPVLD 31 2/3
CPCON 32 2/3
ICB6 SN74HC02N
IC1 μPC78L05A +5V REGULATOR
+5V B29a
+5V B29b
+5V B29c
+5V B30a
+5V B30b
+5V B30c
GND B31a
GND B31b
GND B31c
GND B32a
GND B32b
GND B32c
-5V B28a
-5V B28b
-5V B28c
+12V A2a
+12V A2b
+12V A2c
GND A1a
GND A1b
GND A1c
-12V A3a
-12V A3b
-12V A3c

NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12abc
PIN NO.
CONNECTOR NO.
A: CNA (CN315)
B: CNB (CN316)

SV-90 BOARD (3/3)
BOARD NO.1-621-106-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

CH-15 BOARD (1-621-681-11)

Component Side


CH-15
1-621-681-11
SONY JAPAN
LOT NO

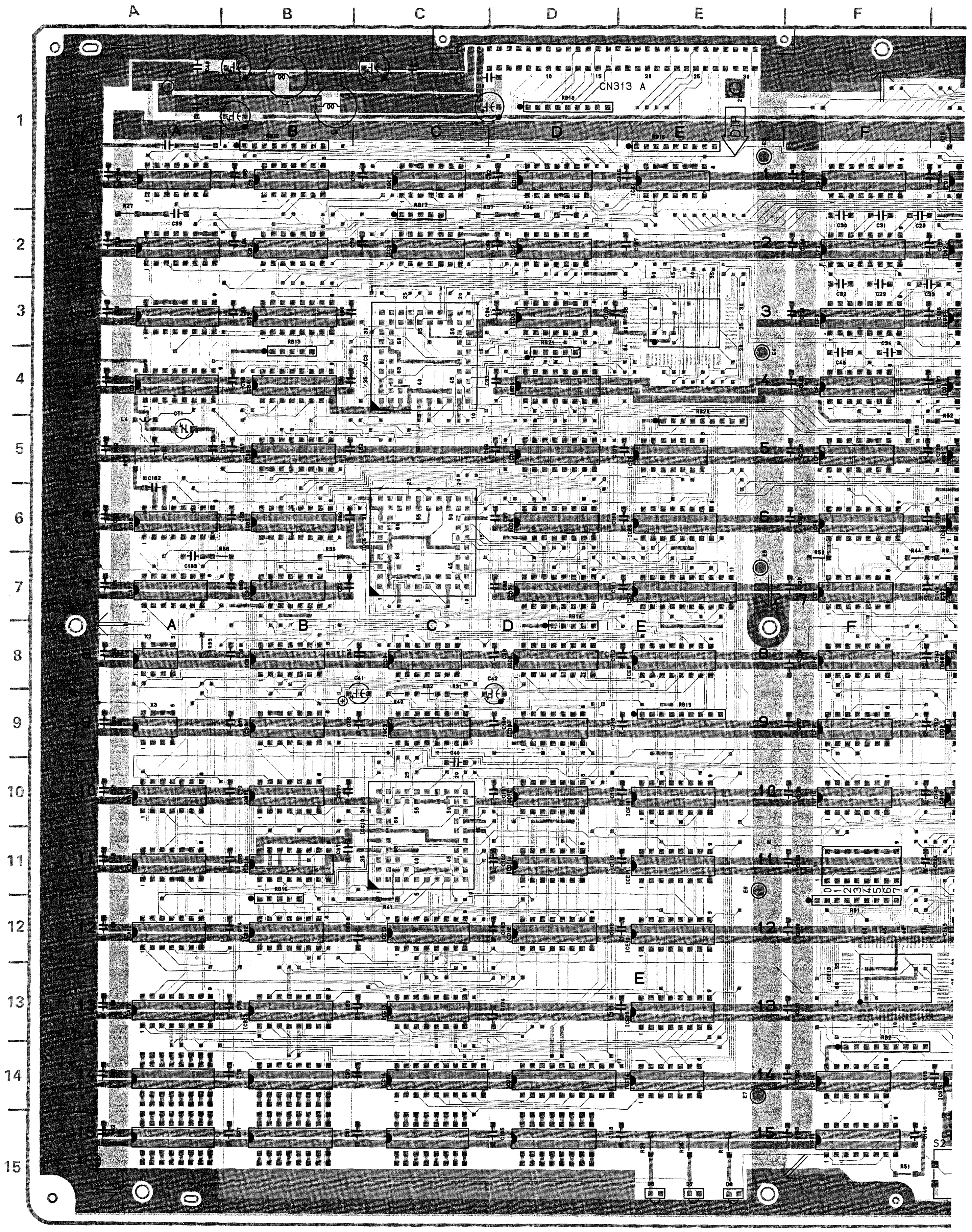
1-621-681-11
COMPONENT SIDE

1-621-681-11
SOLDER SIDE

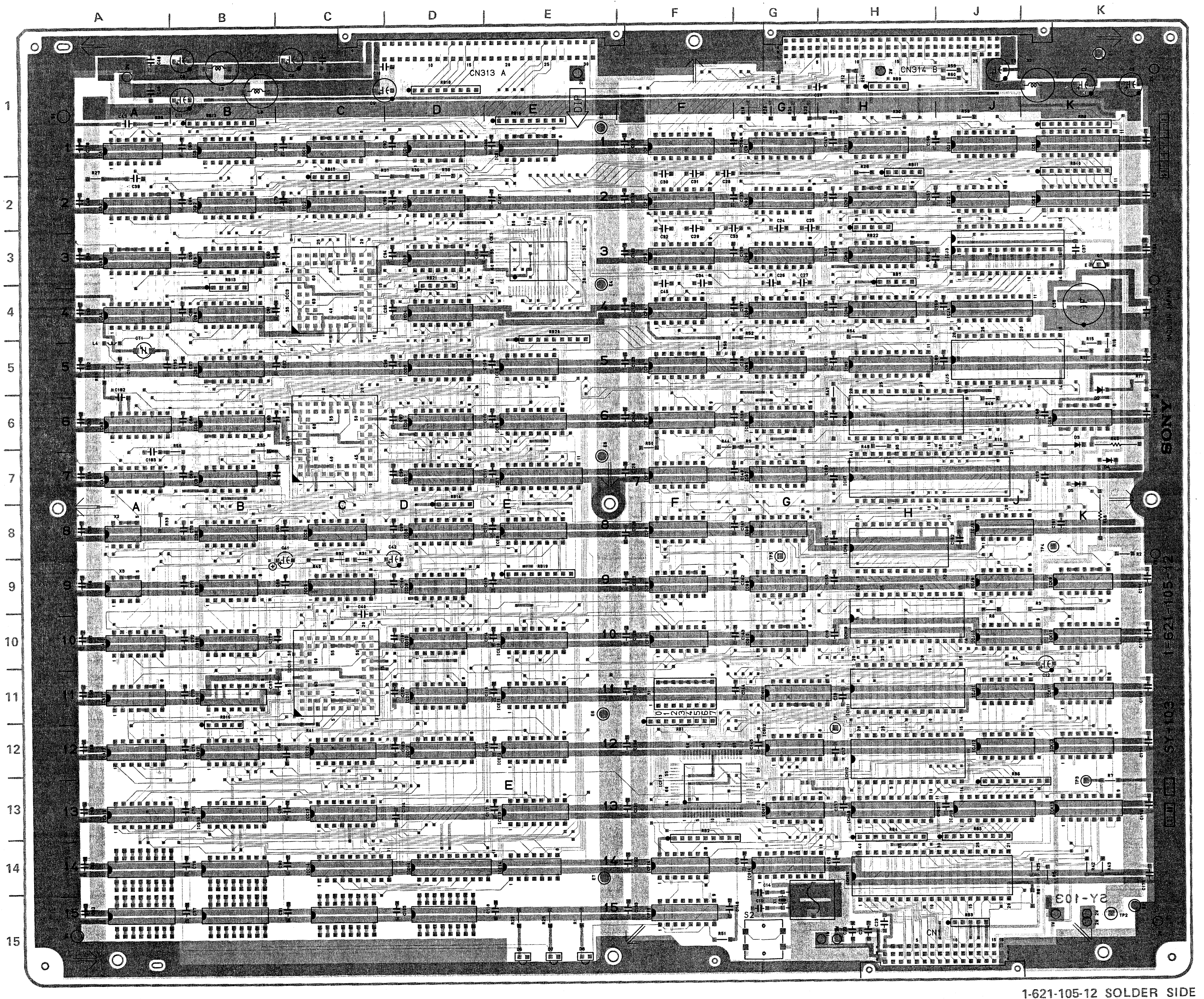
FOR BOARD No. -11

SY-103 BOARD (1-621-105-12)

Component Side


A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
CN313 A
S2

1-621-105-12 COMPONENT SIDE


A
B
C
D
E
F
G
H
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
CN313 A
CN314 B
CN1
S2
SONY
SY-103
1-621-105-12

1-621-105-12 COMPONENT SIDE

1-621-105-12 SOLDER SIDE

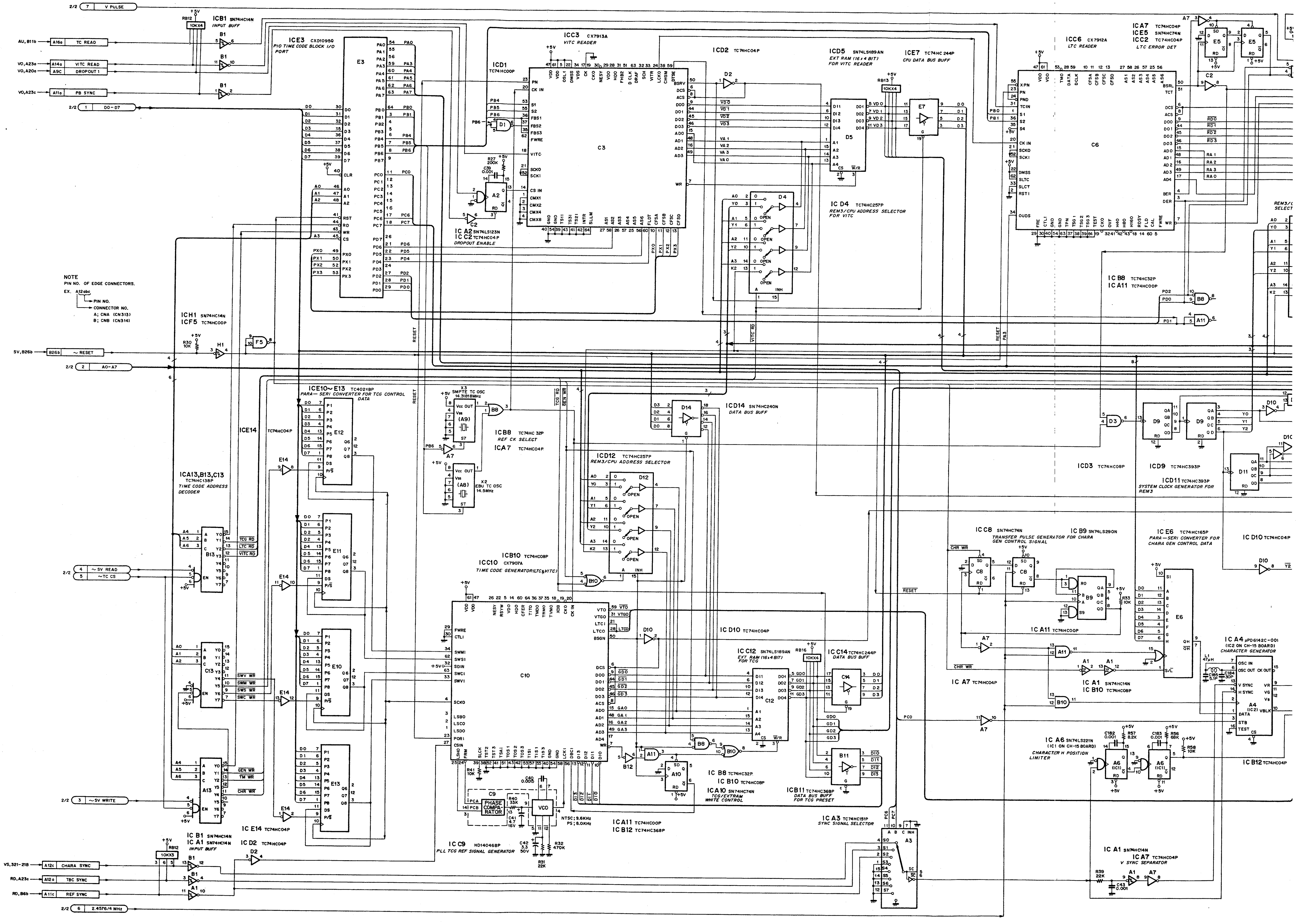
SY-103 (1-621-105-12)

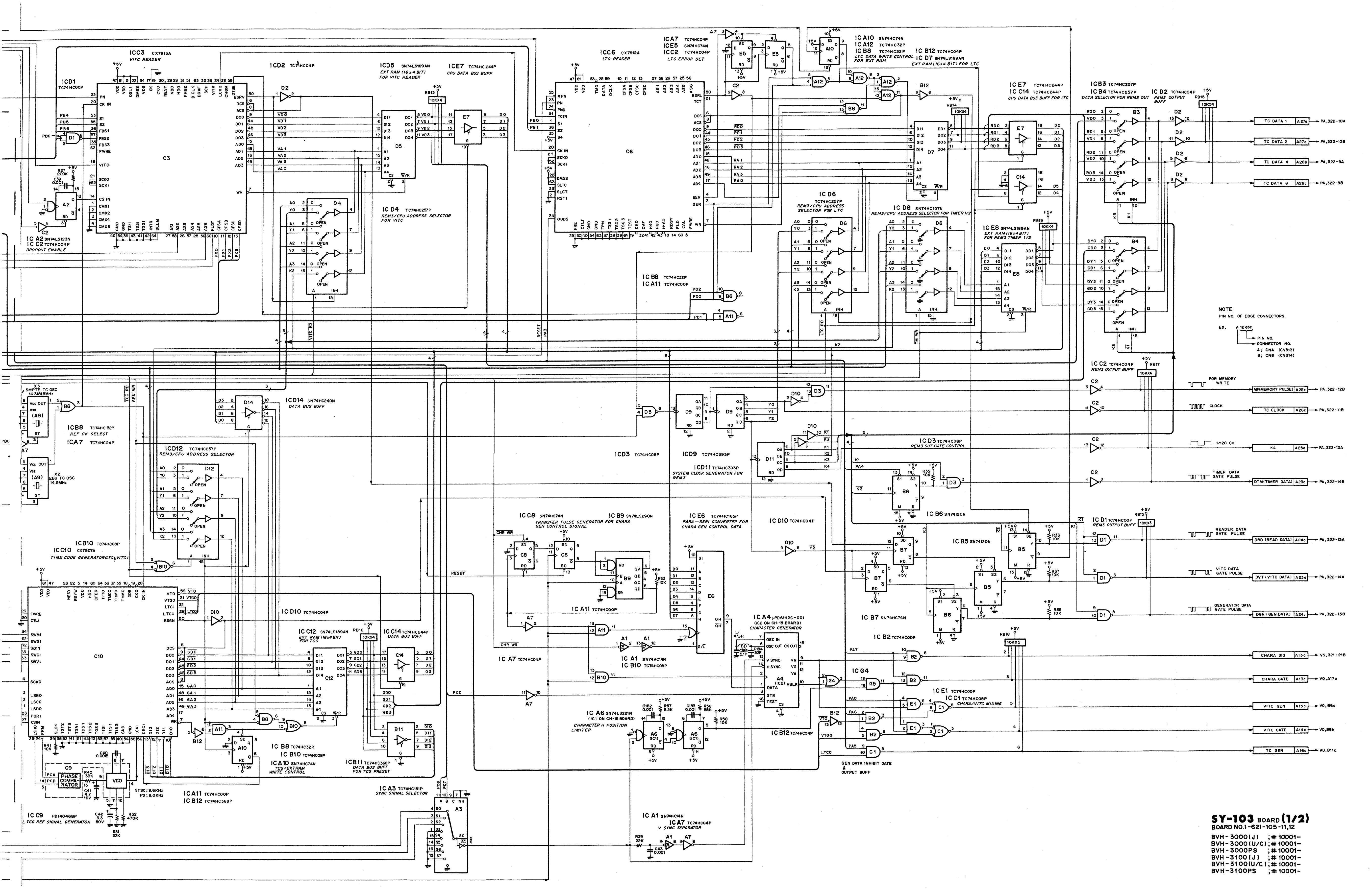
BVH-3000/PS
BVH-3100/PS

CN313	D1
CN314	H1
CT1	A5
D2	K6
D3	K6
D4	K7
D5	K7
D6	E15
D7	E15
D8	E15
E1	K1
E2	K15
E3	E1
E4	E3
E5	E7
E6	E11
E7	E14
E8	A1
E9	A15
Q1	K3
RB1	F11
RB2	F13
RB3	J15
RB4	H13
RB5	J13
RB6	J13
RB7	H3
RB8	K1
RB9	H1
RB10	K1
RB11	H1
RB12	B1
RB13	B3
RB14	D7
RB15	E1
RB16	B11
RB17	C1
RB18	D1
RB19	E9
RB20	E4
RB21	D3
RB22	H2
S2	G15
TP1	H12
TP2	K15
TP3	K13
TP4	K8
TP5	G8
X1	G15
X2	A8
X3	A9

SY-103 BOARD (1/2)

Reader/Generator
Time Code


ICB1 SN74HC14N INPUT BUFF
ICE3 CXD1095Q PIO TIME CODE BLOCK I/O PORT
ICD1 TC74HC00P
ICC3 CX7913A VITC READER
ICD2 TC74HC04P
ICD5 SN74LS189AN EXT RAM (16×4 BIT) FOR VITC READER
ICE7 TC74HC244P CPU DATA BUS BUFF
ICC6 CX7912A LTC READER
ICA7 TC74HC04P
ICE5 SN74HC74N
ICC2 TC74HC04P LTC ERROR DET
IC A2 SN74LS123N
IC C2 TC74HC04P DROPOUT ENABLE
IC D4 TC74HC257P REM3/CPU ADDRESS SELECTOR FOR VITC
IC B8 TC74HC32P
IC A11 TC74HC00P
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)
ICH1 SN74HC14N
ICF5 TC74HC00P
ICE10~E13 TC4021BP PARA—SERI CONVERTER FOR TCG CONTROL DATA
ICE14 TC74HC04P
X3 SMPTE TC OSC 14.31818MHz
ICB8 TC74HC 32P REF CK SELECT
ICA7 TC74HC04P
X2 EBU TC OSC 14.5MHz
ICD14 SN74HC240N DATA BUS BUFF
ICD12 TC74HC257P REM3/CPU ADDRESS SELECTOR
ICD3 TC74HC08P
ICD9 TC74HC393P
ICD11 TC74HC393P SYSTEM CLOCK GENERATOR FOR REM3
ICA13,B13,C13 TC74HC138P TIME CODE ADDRESS DECODER
ICB10 TC74HC08P
ICC10 CX7907A TIME CODE GENERATOR(LTC,VITC)
IC C8 SN74HC74N TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIGNAL
IC B9 SN74LS290N
IC E6 TC74HC165P PARA—SERI CONVERTER FOR CHARA GEN CONTROL DATA
IC D10 TC74HC04P
IC C12 SN74LS189AN EXT RAM (16×4 BIT) FOR TCG
IC C14 TC74HC244P DATA BUS BUFF
IC A11 TC74HC00P
IC A7 TC74HC04P
IC A1 SN74HC14N
IC B10 TC74HC08P
IC A4 μPD6142C-001 (IC2 ON CH-15 BOARD) CHARACTER GENERATOR
IC A6 SN74LS221N (IC1 ON CH-15 BOARD) CHARACTER H POSITION LIMITER
IC B12 TC74HC04P
IC B8 TC74HC32P
IC B10 TC74HC08P
ICA10 SN74HC74N TCG/EXTRAM WRITE CONTROL
ICB11 TC74HC368P DATA BUS BUFF FOR TCG PRESET
IC A3 TC74HC151P SYNC SIGNAL SELECTOR
ICA11 TC74HC00P
ICB12 TC74HC368P
IC C9 HD14046BP PLL TCG REF SIGNAL GENERATOR
NTSC; 9.6KHz
PS; 8.0KHz
IC B1 SN74HC14N
IC A1 SN74HC14N INPUT BUFF
IC D2 TC74HC04P
IC E14 TC74HC04P
IC A1 SN74HC14N
IC A7 TC74HC04P V SYNC SEPARATOR
V PULSE
TC READ
VITC READ
DROPOUT 1
PB SYNC
D0~D7
~RESET
A0~A7
~SV READ
~TC CS
~SV WRITE
CHARA SYNC
TBC SYNC
REF SYNC
2.4576/4 MHz


ICC3 CX7913A VITC READER
ICD1 TC74HC00P
IC A2 SN74LS123N
IC C2 TC74HC04P DROPOUT ENABLE
ICD2 TC74HC04P
ICD5 SN74LS189AN EXT RAM (16×4 BIT) FOR VITC READER
ICE7 TC74HC244P CPU DATA BUS BUFF
IC D4 TC74HC257P REM3/CPU ADDRESS SELECTOR FOR VITC
ICC6 CX7912A LTC READER
ICA7 TC74HC04P
ICE5 SN74HC74N
ICC2 TC74HC04P LTC ERROR DET
IC A10 SN74HC74N
IC A12 TC74HC32P
IC B8 TC74HC32P LTC DATA WRITE CONTROL FOR EXT RAM
IC B12 TC74HC04P
IC D7 SN74LS189AN EXT RAM (16×4 BIT) FOR LTC
IC D6 TC74HC257P REM3/CPU ADDRESS SELECTOR FOR LTC
IC D8 SN74HC157N REM3/CPU ADDRESS SELECTOR FOR TIMER 1/2
IC E7 TC74HC244P
IC C14 TC74HC244P CPU DATA BUS BUFF FOR LTC
IC E8 SN74LS189AN EXT RAM (16×4 BIT) FOR REM3 TIMER 1/2
ICB3 TC74HC257P
ICB4 TC74HC257P DATA SELECTOR FOR REM3 OUT
IC D2 TC74HC04P REM3 OUTPUT BUFF
IC B8 TC74HC32P
IC A11 TC74HC00P
TC DATA 1 A27a PA,322-10A
TC DATA 2 A27c PA,322-10B
TC DATA 4 A28a PA,322-9A
TC DATA 8 A28c PA,322-9B
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A 12 abc
PIN NO.
CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)
X3 SMPTE TC OSC 14.31818MHz
ICB8 TC74HC32P REF CK SELECT
ICA7 TC74HC04P
X2 EBU TC OSC 14.5MHz
ICD14 SN74HC240N DATA BUS BUFF
ICD12 TC74HC257P REM3/CPU ADDRESS SELECTOR
ICB10 TC74HC08P
ICC10 CX7907A TIME CODE GENERATOR(LTC/VITC)
ICD3 TC74HC08P
ICD9 TC74HC393P
ICD11 TC74HC393P SYSTEM CLOCK GENERATOR FOR REM3
IC C2 TC74HC04P REM3 OUTPUT BUFF
FOR MEMORY WRITE
MP(MEMORY PULSE) A25c PA,322-12B
CLOCK
TC CLOCK A26c PA,322-11B
1/128 CK
K4 A25a PA,322-12A
IC D3 TC74HC08P REM3 OUT GATE CONTROL
TIMER DATA GATE PULSE
DTM(TIMER DATA) A23c PA,322-14B
IC B6 SN74120N
IC C8 SN74HC74N TRANSFER PULSE GENERATOR FOR CHARA GEN CONTROL SIGNAL
IC B9 SN74LS290N
IC E6 TC74HC165P PARA-SERI CONVERTER FOR CHARA GEN CONTROL DATA
IC D10 TC74HC04P
IC B5 SN74120N
IC D1 TC74HC00P REM3 OUTPUT BUFF
READER DATA GATE PULSE
DRD (READ DATA) A24a PA,322-13A
VITC DATA GATE PULSE
DVT (VITC DATA) A23a PA,322-14A
GENERATOR DATA GATE PULSE
DGN (GEN DATA) A24c PA,322-13B
IC B7 SN74HC74N
IC B2 TC74HC00P
IC C12 SN74LS189AN EXT RAM (16×4 BIT) FOR TCG
IC C14 TC74HC244P DATA BUS BUFF
IC A11 TC74HC00P
IC A7 TC74HC04P
IC A1 SN74HC14N
IC B10 TC74HC08P
IC A4 μPD6142C-001 (IC2 ON CH-15 BOARD) CHARACTER GENERATOR
IC G4
IC E1 TC74HC00P
IC C1 TC74HC08P CHARA/VITC MIXING
CHARA SIG VS,321-21B
CHARA GATE A13c VO,A17a
VITC GEN A15a VO,B6a
VITC GATE A14c VO,B6b
TC GEN A16c AU,B11c
IC A6 SN74LS221N (IC1 ON CH-15 BOARD) CHARACTER H POSITION LIMITER
IC B12 TC74HC04P
GEN DATA INHIBIT GATE & OUTPUT BUFF
IC B8 TC74HC32P
IC B10 TC74HC08P
ICA10 SN74HC74N TCG/EXTRAM WHITE CONTROL
ICB11 TC74HC368P DATA BUS BUFF FOR TCG PRESET
IC A3 TC74HC151P SYNC SIGNAL SELECTOR
ICA11 TC74HC00P
ICB12 TC74HC368P
IC C9 HD14046BP TCG REF SIGNAL GENERATOR
PHASE COMPARATOR
VCO
NTSC; 9.6KHz PS; 8.0KHz
IC A1 SN74HC14N
ICA7 TC74HC04P V SYNC SEPARATOR

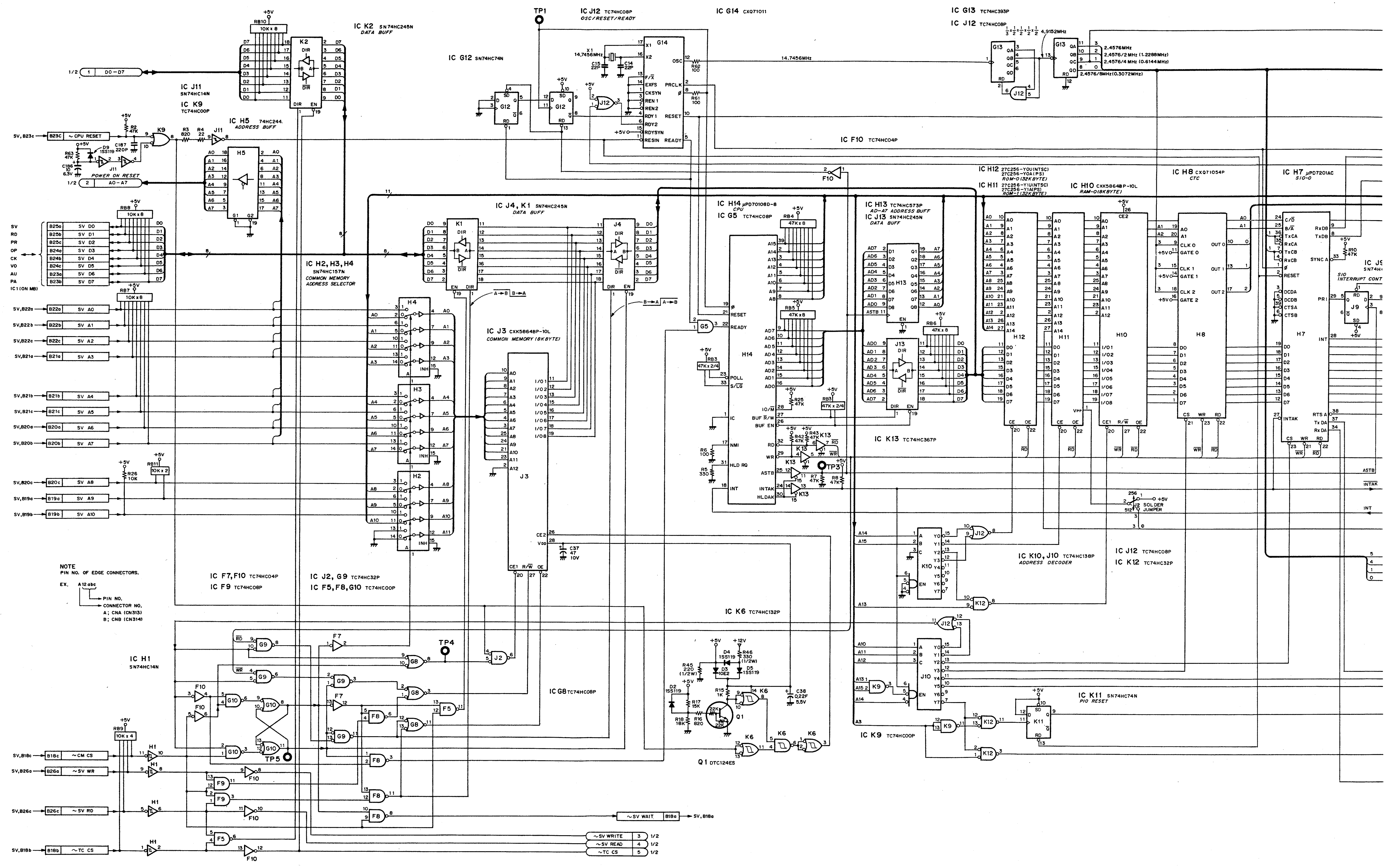
SY-103 BOARD (1/2)

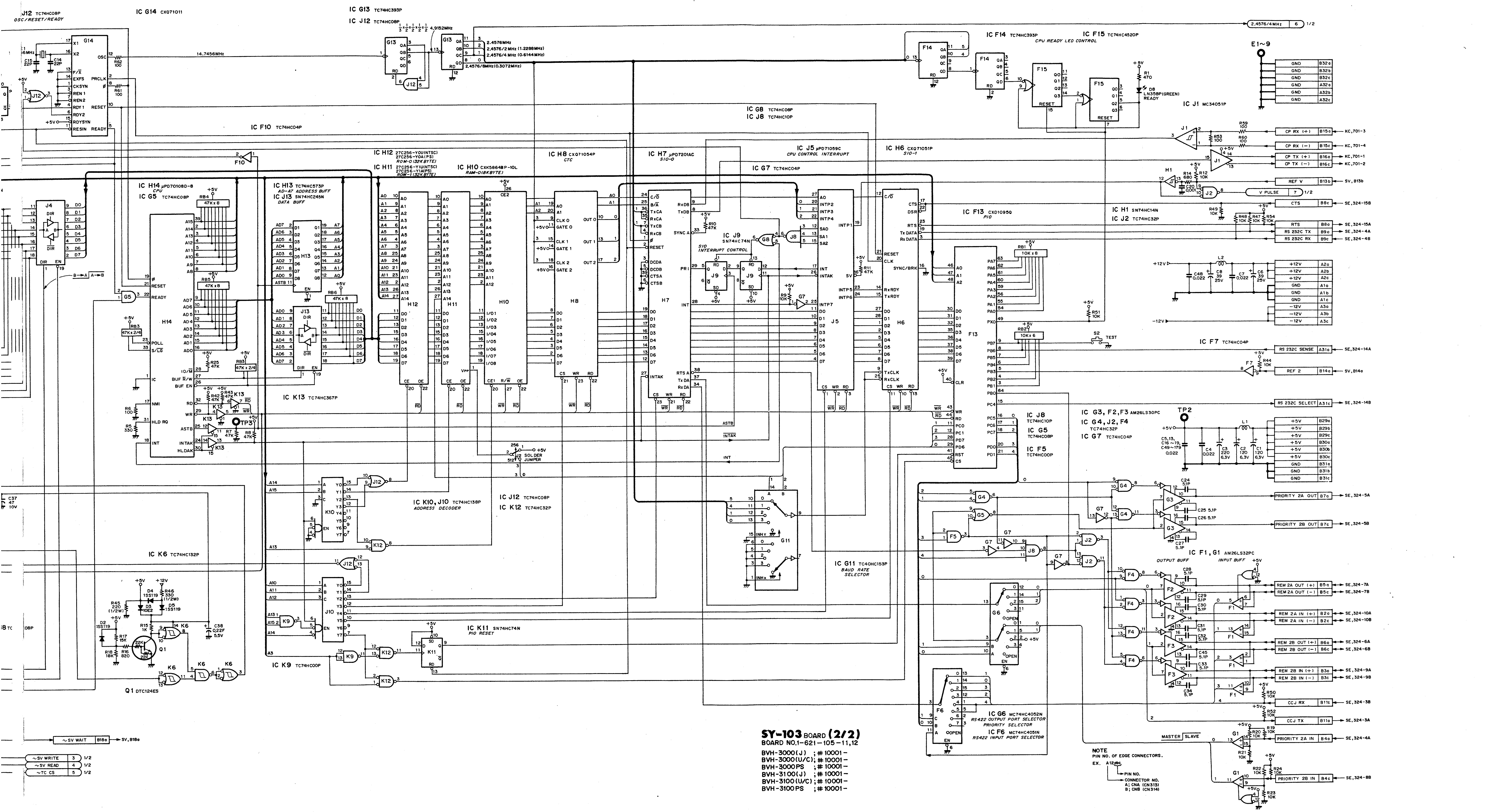
BOARD NO.1-621-105-11,12

BVH-3000(J) ;#10001-
BVH-3000(U/C);#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C);#10001-
BVH-3100PS ;#10001-

SY-103 BOARD (2/2)

System Control


IC K2 SN74HC245N DATA BUFF
IC J11 SN74HC14N
IC K9 TC74HC00P
IC H5 74HC244 ADDRESS BUFF
IC G12 SN74HC74N
TP1
IC J12 TC74HC08P OSC/RESET/READY
IC G14 CX071011
IC G13 TC74HC393P
IC J12 TC74HC08P
4.9152MHz
14.7456MHz
2.4576MHz
2.4576/2MHz (1.2288MHz)
2.4576/4MHz (0.6144MHz)
2.4576/8MHz (0.3072MHz)
IC F10 TC74HC04P
~CPU RESET
POWER ON RESET
1/2 D0–D7
1/2 A0–A7
IC J4, K1 SN74HC245N DATA BUFF
IC H2, H3, H4 SN74HC157N COMMON MEMORY ADDRESS SELECTOR
IC J3 CXK5864BP-10L COMMON MEMORY (8KBYTE)
IC H14 µPD70108D-8 CPU
IC G5 TC74HC08P
IC H13 TC74HC573P A0–A7 ADDRESS BUFF
IC J13 SN74HC245N DATA BUFF
IC H12 27C256-Y0(NTSC) 27C256-Y0A(PS) ROM-0(32K BYTE)
IC H11 27C256-Y1(NTSC) 27C256-Y1A(PS) ROM-1(32K BYTE)
IC H10 CXK5864BP-10L RAM-0(8KBYTE)
IC H8 CX071054P CTC
IC H7 µPD7201AC SIO-0
IC K13 TC74HC367P
TP3
IC K10, J10 TC74HC138P ADDRESS DECODER
IC J12 TC74HC08P
IC K12 TC74HC32P
IC K6 TC74HC132P
IC K11 SN74HC74N PIO RESET
IC K9 TC74HC00P
Q1 DTC124ES
SOLDER JUMPER
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
PIN NO.
CONNECTOR NO.
A ; CNA (CN313)
B ; CNB (CN314)
IC F7, F10 TC74HC04P
IC F9 TC74HC08P
IC J2, G9 TC74HC32P
IC F5, F8, G10 TC74HC00P
IC G8 TC74HC08P
IC H1 SN74HC14N
TP4
TP5
~CM CS
~SV WR
~SV RD
~TC CS
~SV WAIT
~SV WRITE
~SV READ
~TC CS
SV, B23c
SV
RD
PR
OP
CK
VO
AU
PA
IC1 (ON MB)
SV D0
SV D1
SV D2
SV D3
SV D4
SV D5
SV D6
SV D7
SV A0
SV A1
SV A2
SV A3
SV A4
SV A5
SV A6
SV A7
SV A8
SV A9
SV A10


IC G14 CX071011
J12 TC74HC08P OSC/RESET/READY
IC G13 TC74HC393P
IC J12 TC74HC08P
4.9152MHz
14.7456MHz
2.4576MHz
2.4576/2 MHz (1.2288MHz)
2.4576/4 MHz (0.6144MHz)
2.4576/8MHz (0.3072MHz)
2.4576/4MHz 6 1/2
IC F14 TC74HC393P
IC F15 TC74HC4520P CPU READY LED CONTROL
D8 LN35BP(GREEN) READY
E1~9
IC F10 TC74HC04P
IC H14 μPD70108D-8 CPU
IC G5 TC74HC08P
IC H13 TC74HC573P AD-A7 ADDRESS BUFF
IC J13 SN74HC245N DATA BUFF
IC H12 27C256-Y0U(NTSC) 27C256-Y0A(PS) ROM-0(32K BYTE)
IC H11 27C256-Y1U(NTSC) 27C256-Y1A(PS) ROM-1(32K BYTE)
IC H10 CXK5864BP-10L RAM-0(8K BYTE)
IC H8 CX071054P CTC
IC H7 μPD7201AC SIO-0
IC G8 TC74HC08P
IC J8 TC74HC10P
IC J9 SN74HC74N SIO INTERRUPT CONTROL
IC J5 μPD71059C CPU CONTROL INTERRUPT
IC G7 TC74HC04P
IC H6 CX071051P SIO-1
IC F13 CXD1095Q PIO
IC J1 MC34051P
IC H1 SN74HC14N
IC J2 TC74HC32P
IC F7 TC74HC04P
IC J8 TC74HC10P
IC G5 TC74HC08P
IC F5 TC74HC00P
IC G3, F2, F3 AM26LS30PC
IC G4, J2, F4 TC74HC32P
IC G7 TC74HC04P
IC F1, G1 AM26LS32PC
OUTPUT BUFF
INPUT BUFF
TP2
TP3
IC K13 TC74HC367P
IC K10, J10 TC74HC138P ADDRESS DECODER
IC J12 TC74HC08P
IC K12 TC74HC32P
IC K6 TC74HC132P
IC K11 SN74HC74N PIO RESET
IC K9 TC74HC00P
IC G11 TC4OHC153P BAUD RATE SELECTOR
IC G6 MC74HC4052N RS422 OUTPUT PORT SELECTOR PRIORITY SELECTOR
IC F6 MC74HC4051N RS422 INPUT PORT SELECTOR
Q1 DTC124ES
S2 TEST
SOLDER JUMPER
MASTER SLAVE
CP RX (+) B15a KC,701-3
CP RX (−) B15c KC,701-4
CP TX (+) B16a KC,701-1
CP TX (−) B16c KC,701-2
REF V B13b SV,B13b
V PULSE 7 1/2
CTS B8c SE,324-15B
RTS B8a SE,324-15A
RS 232C TX B9a SE,324-4A
RS 232C RX B9c SE,324-4B
RS 232C SENSE A31a SE,324-14A
REF 2 B14a SV,B14a
RS 232C SELECT A31c SE,324-14B
PRIORITY 2A OUT B7a SE,324-5A
PRIORITY 2B OUT B7c SE,324-5B
REM 2A OUT (+) B5a SE,324-7A
REM 2A OUT (−) B5c SE,324-7B
REM 2A IN (+) B2a SE,324-10A
REM 2A IN (−) B2c SE,324-10B
REM 2B OUT (+) B6a SE,324-6A
REM 2B OUT (−) B6c SE,324-6B
REM 2B IN (+) B3a SE,324-9A
REM 2B IN (−) B3c SE,324-9B
CCJ RX B11c SE,324-3B
CCJ TX B11a SE,324-3A
PRIORITY 2A IN B4a SE,324-4A
PRIORITY 2B IN B4c SE,324-8B
~SV WAIT B18a SV,B18a
~SV WRITE 3 1/2
~SV READ 4 1/2
~TC CS 5 1/2
+12V
−12V
+5V
GND

SY-103 BOARD **(2/2)**
BOARD NO.1-621-105-11,12
BVH-3000(J) ;#10001-
BVH-3000(U/C);#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C);#10001-
BVH-3100PS ;#10001-

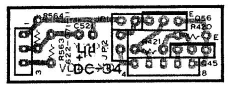
NOTE
PIN NO. OF EDGE CONNECTORS.
EX. A12abc
→PIN NO.
→CONNECTOR NO.
A; CNA (CN313)
B; CNB (CN314)

VO-16 BOARD (1-621-101-12)

Component Side

DC-34 BOARD (1-622-071-11)

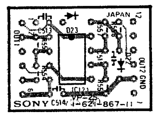
Component Side



1-622-071-11
SOLDER SIDE

VP-25 BOARD (1-621-867-11)

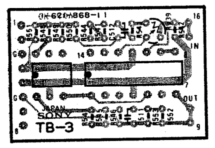
Component Side



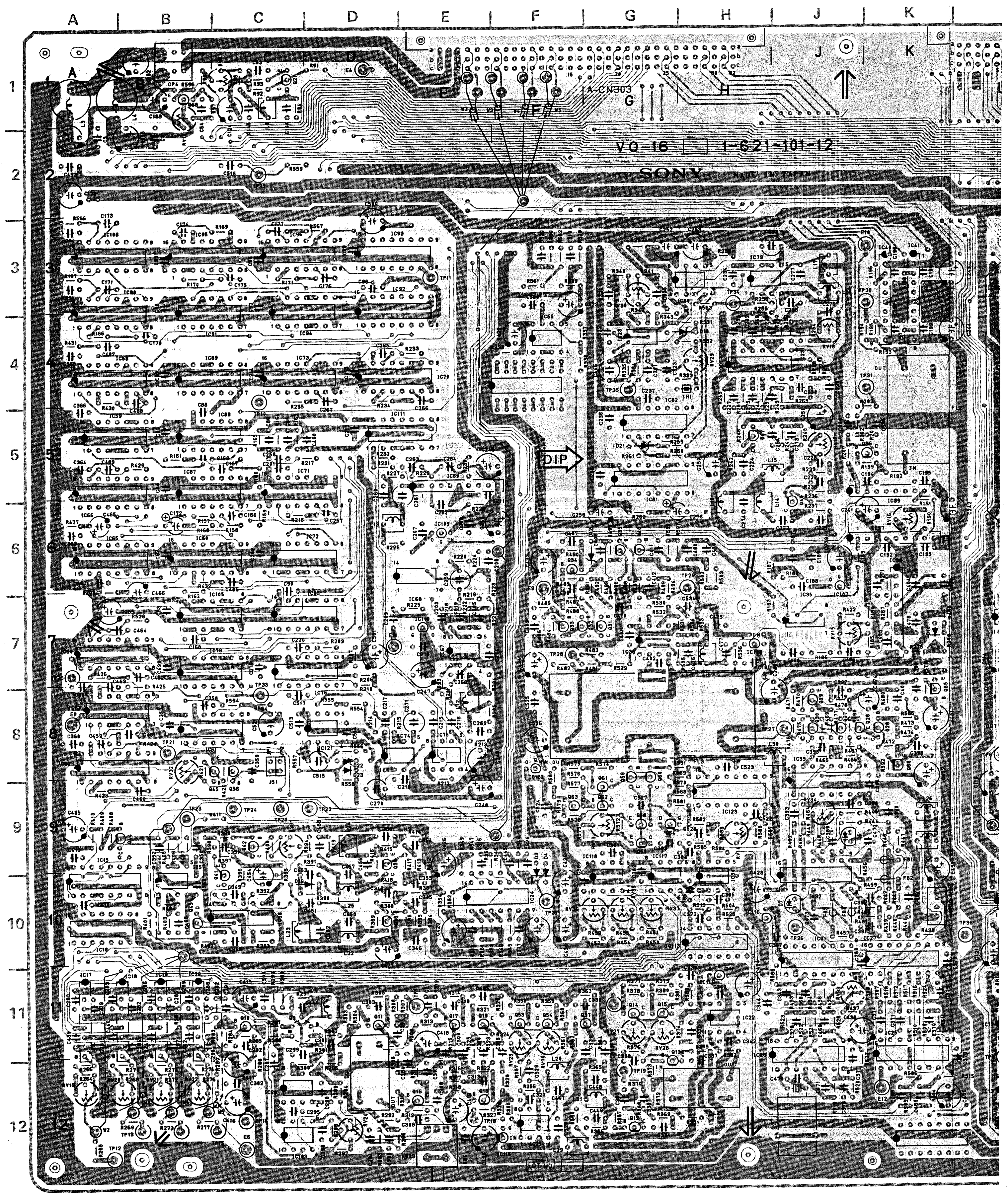
1-621-867-11
SOLDER SIDE

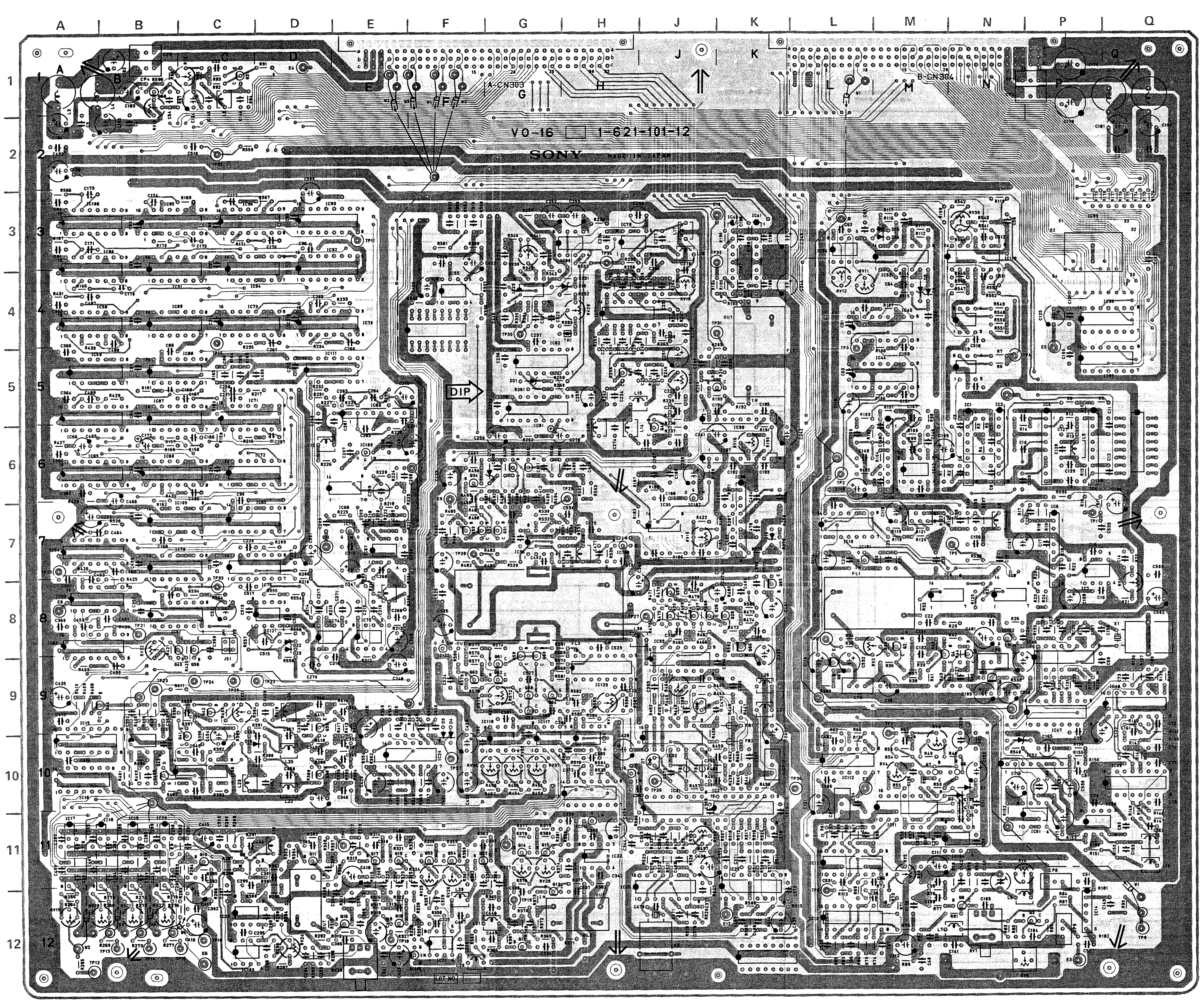
TB-3 BOARD (1-621-868-11)

Component Side


1-621-868-11
SONY
TB-3

1-621-868-11
SOLDER SIDE
FOR BOARD No. -11


A
B
C
D
E
F
G
H
J
K
1
2
3
4
5
6
7
8
9
10
11
12
A-CN303
VO-16 1-621-101-12
SONY
MADE IN JAPAN
DIP



1-621-101-12 SOLDER SIDE

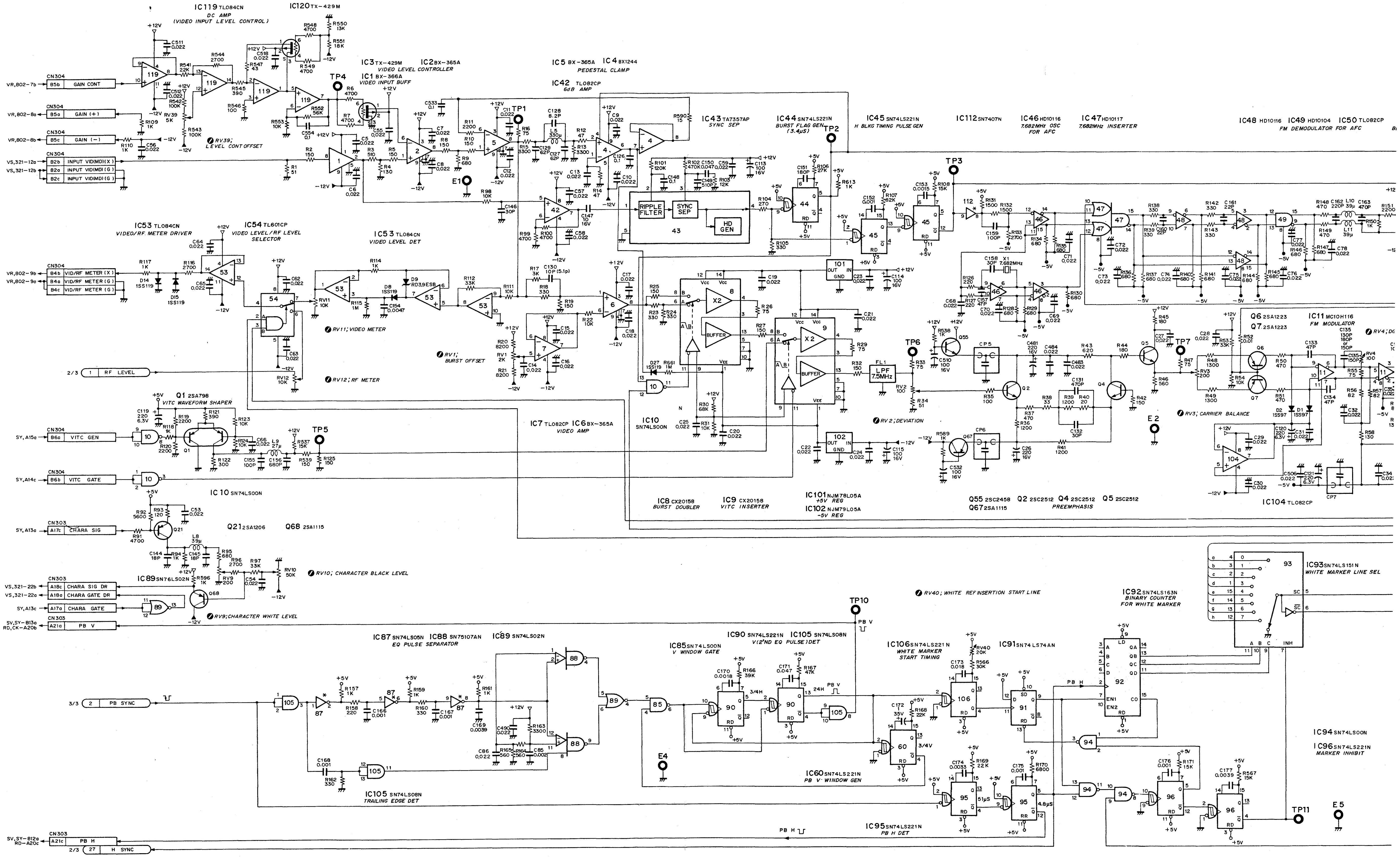
VO-16 (1-621-101-12)

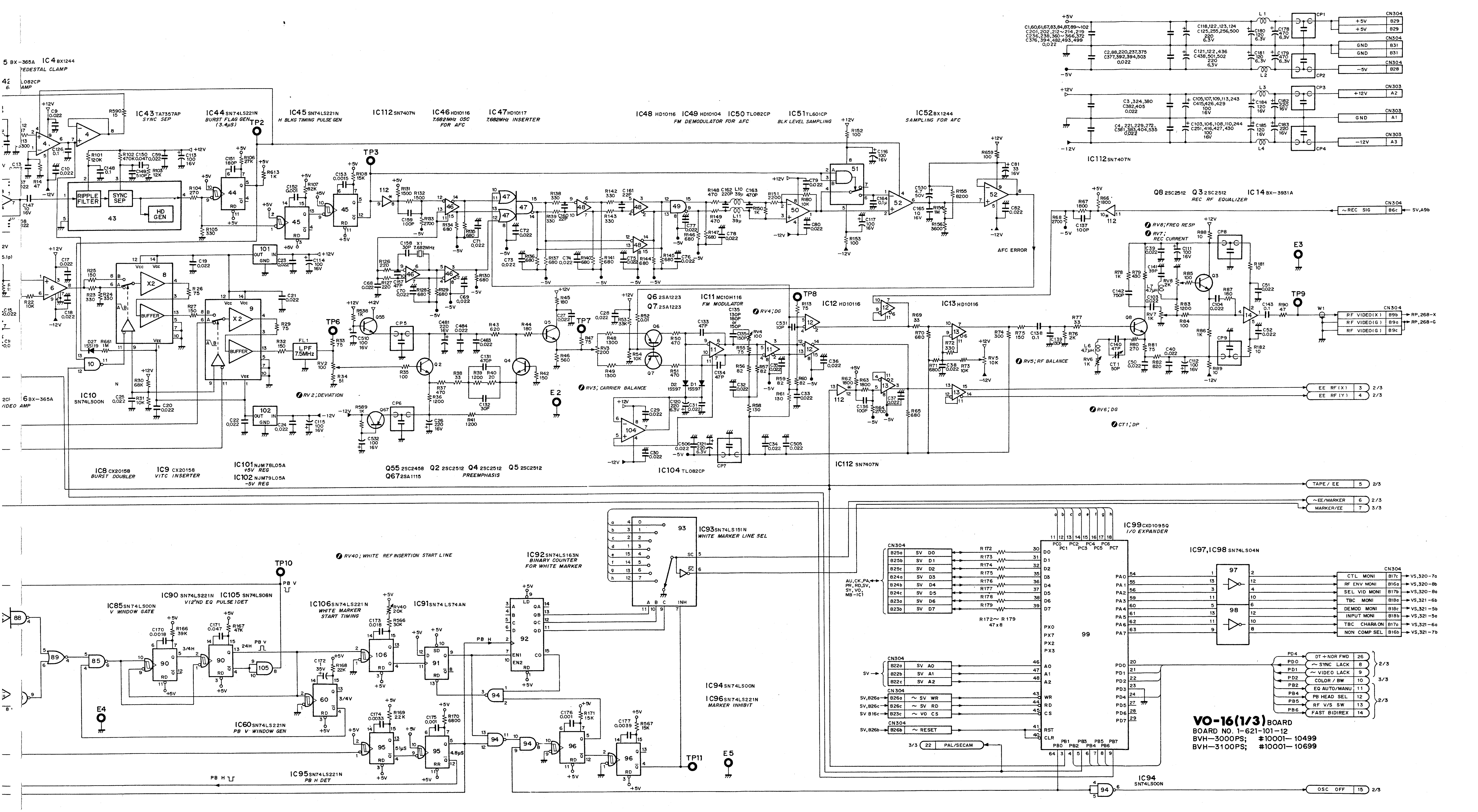
BVH-3000/PS
BVH-3100/PS

CN303	G1
CN304	M1
CP1	P1
CP2	P1
CP3	B1
CP4	B1
CP5	N9
CP6	L9
CP7	L10
CP8	P11
CP9	P12
CP10	K10
CP11	H5
CP12	J6
CT1	N11
D1	N10
D2	N10
D3	F10
D4	F10
D5	N10
D6	J9
D7	J10
D8	M4
D9	M4
D10	K7
D12	G6
D14	M3
D15	M3
D18	H4
D19	C10
D21	G5
D22	D8
D23	D8
DL1	D12
DL2	H12
E1	N1
E2	L10
E3	P11
E4	D1
E5	P5
E6	C12
E7	G11
E8	A8
E9	F7
E10	K3
E11	D7
E12	K12
E13	M6
FB1	K9
FB2	K10
FB3	J10
FB4	J10
FL1	L8
FL2	K5
FL3	H8
IC1	N6
IC2	N6
IC3	N5
IC4	P6
IC5	P6
IC6	P7
IC7	P7
IC8	N8
IC9	N8
IC10	L7
IC11	M10
IC12	L11
IC13	L12
IC14	P12
IC15	A10
IC16	A10
IC17	A11
IC18	A11
IC19	B11
IC20	C12
IC21	F12
IC22	H11
IC23	G4
IC24	F10
IC25	K11
IC26	J11
IC27	K10
IC29	B11
IC31	J10
IC32	J10
IC33	J9
IC34	H10
IC35	J7
IC36	G7
IC37	K6
IC38	K7
IC39	K5
IC40	K3
IC41	K3
IC42	M6
IC43	M6
IC44	M5
IC45	M4
IC46	P9
IC47	P9
IC48	Q9
IC49	Q10
IC50	P11
IC51	P11
IC52	P10
IC53	M3
IC54	L3
IC55	F4
IC56	C10
IC57	B10
IC58	A4
IC59	A5
IC60	B6
IC61	B8
IC62	A8
IC63	A8
IC64	A7
IC65	A6
IC66	A5
IC67	E7
IC68	E6
IC69	E5
IC70	D4
IC71	C5
IC72	C6
IC73	C4
IC74	D8
IC75	E8
IC76	C7
IC77	H4
IC78	A7
IC79	H3
IC80	H3
IC81	G5
IC82	G5
IC85	C7
IC87	B5
IC88	B5
IC89	B4
IC90	A3
IC91	B4
IC92	D4
IC93	D3
IC94	C4
IC95	B3
IC96	C3
IC97	Q5
IC98	Q4
IC99	P3
IC101	L7
IC102	N8
IC103	C12
IC104	N11
IC105	B7
IC106	A3
IC107	J7
IC108	H7
IC109	E6
IC110	E7
IC111	D5
IC112	L10
IC113	H10
IC114	H11
IC115	F12
IC116	H10
IC117	G10
IC118	G10
IC119	N3
IC120	N4
IC121	D8
IC122	F8
IC123	H9
JP1	C8
JP2	C8
Q1	M7
Q2	M8
Q3	P12
Q4	M8
Q5	N8
Q6	M10
Q7	M10
Q8	N12
Q9	C11
Q10	C11
Q11	D11
Q12	G12
Q13	G12
Q14	G11
Q15	G11
Q16	E12
Q17	E11
Q18	E12
Q19	E11
Q21	C1
Q26	J8
Q27	J8
Q28	K8
Q29	J8
Q30	J8
Q31	G7
Q32	F7
Q33	F7
Q34	F6
Q35	G6
Q36	J5
Q37	F11
Q38	D10
Q39	D9
Q40	G6
Q41	C10
Q42	C9
Q43	B10
Q44	A9
Q45	B8
Q46	J6
Q47	H5
Q53	F11
Q54	F11
Q55	N9
Q56	C8
Q57	G9
Q58	G9
Q59	G9
G60	G9
Q61	G9
Q62	G9
Q63	F9
Q64	G9
Q65	K8
Q66	K8
Q67	L9
Q68	B1
RV1	Q8
RV2	L8
RV3	M10
RV4	M10
RV5	M11
RV6	N11
RV7	N12
RV8	N12
RV9	C1
RV10	B1
RV11	L4
RV12	L4
RV13	G9
RV14	H9
RV15	J7
RV16	K6
RV17	J5
RV18	J4
RV19	A12
RV20	A12
RV21	B12
RV22	B12
RV23	E12
RV24	D12
RV25	F11
RV26	F11
RV27	G11
RV28	G11
RV29	H4
RV30	G3
RV31	C9
RV32	B8
RV33	J11
RV34	J9
RV35	G10
RV36	G10
RV37	G10
RV39	N3
TH1	H4
TP1	P7
TP2	L6
TP3	L5
TP4	N5
TP5	N7
TP6	L8
TP7	M9
TP8	L11
TP9	Q12
TP10	C4
TP11	E3
TP12	A12
TP13	B12
TP14	B12
TP15	C12
TP16	C12
TP17	E11
TP18	E12
TP19	G12
TP20	C9
TP21	B8
TP22	D9
TP23	B9
TP24	C9
TP25	A7
TP26	J10
TP27	J8
TP28	F7
TP29	H6
TP30	J3
TP31	J4
TP32	C2
TP33	C8
TP34	H3
TP35	G4
TP36	L10
TP37	F10
X1	Q8
X2	J12

VO-16 BOARD (1/3)

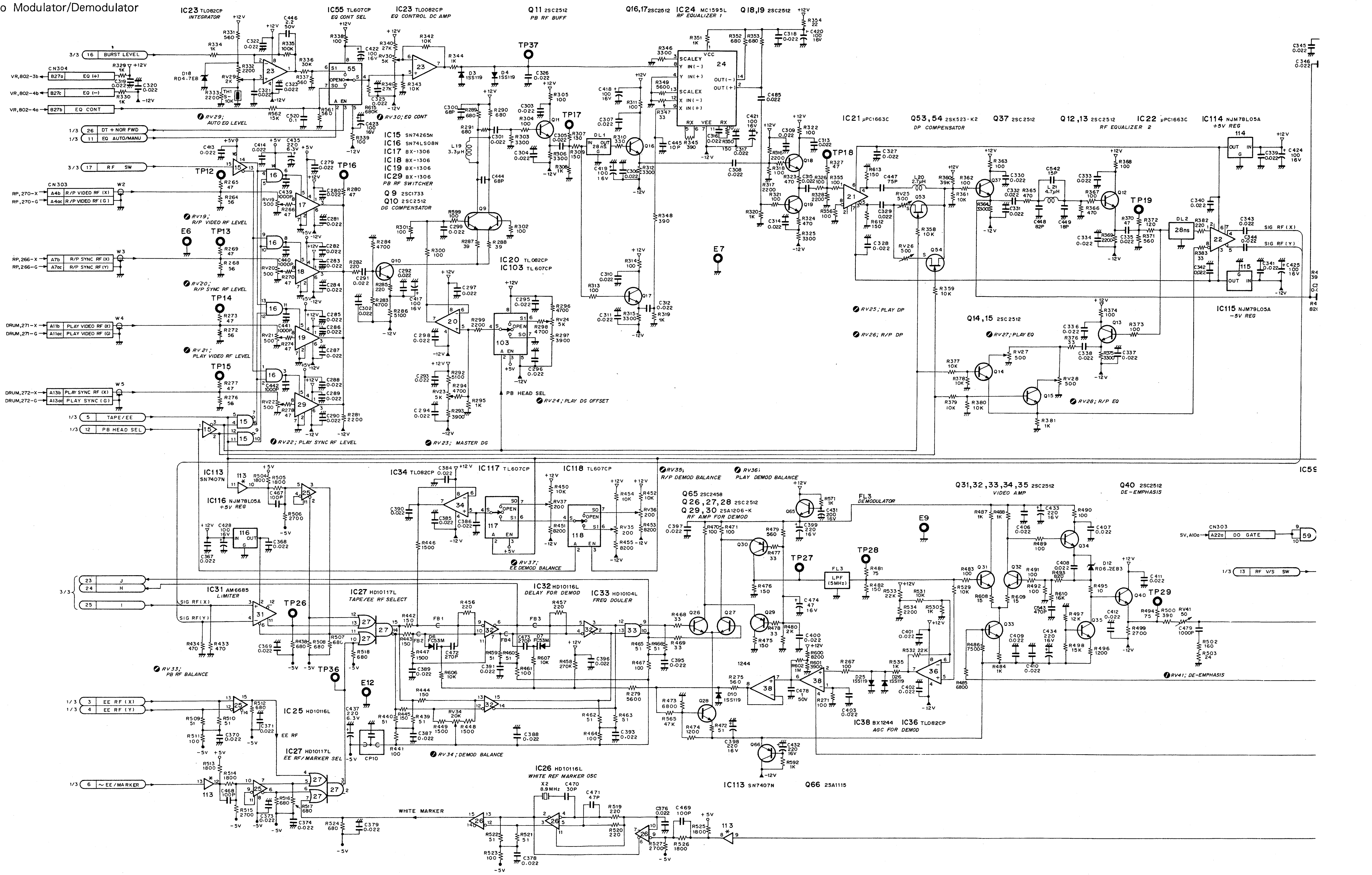
Video Modulator/Demodulator

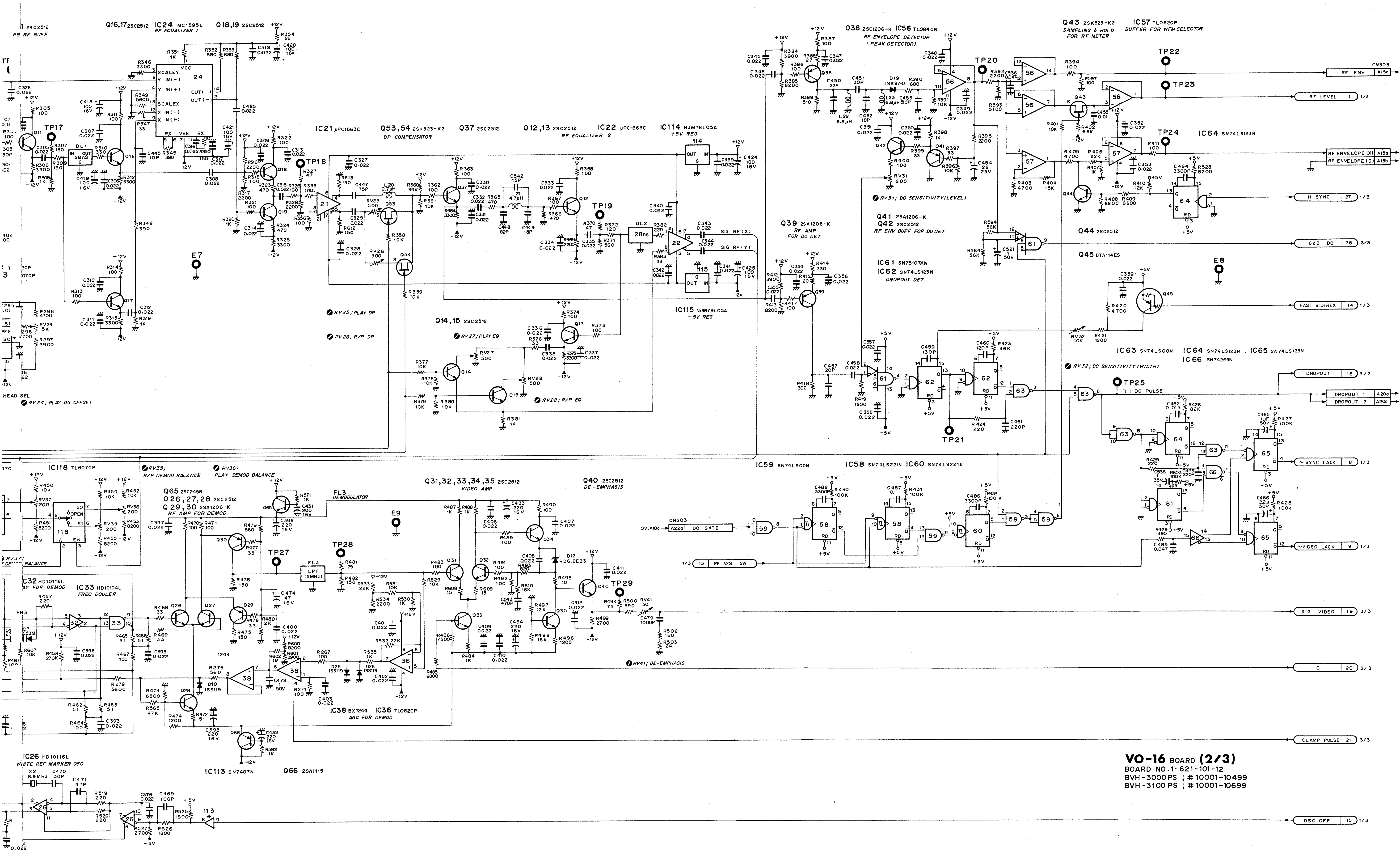

IC119 TL084CN DC AMP (VIDEO INPUT LEVEL CONTROL)
IC120 TX-429M
IC3 TX-429M VIDEO LEVEL CONTROLLER
IC2 BX-365A
IC1 BX-366A VIDEO INPUT BUFF
IC5 BX-365A IC4 BX1244 PEDESTAL CLAMP
IC42 TL082CP 6dB AMP
IC43 TA7357AP SYNC SEP
IC44 SN74LS221N BURST FLAG GEN (3.4μS)
IC45 SN74LS221N H BLKG TIMING PULSE GEN
IC112 SN7407N
IC46 HD10116 7.682MHz OSC FOR AFC
IC47 HD10117 7.682MHz INSERTER
IC48 HD10116 IC49 HD10104 IC50 TL082CP FM DEMODULATOR FOR AFC
IC53 TL084CN VIDEO/RF METER DRIVER
IC54 TL601CP VIDEO LEVEL/RF LEVEL SELECTOR
IC53 TL084CN VIDEO LEVEL DET
IC7 TL082CP IC6 BX-365A VIDEO AMP
IC10 SN74LS00N
IC8 CX20158 BURST DOUBLER
IC9 CX20158 VITC INSERTER
IC101 NJM78L05A +5V REG
IC102 NJM79L05A -5V REG
Q55 2SC2458 Q2 2SC2512 Q4 2SC2512 Q5 2SC2512
Q67 2SA1115 PREEMPHASIS
Q6 2SA1223 Q7 2SA1223
IC11 MC10H116 FM MODULATOR
IC104 TL082CP
Q1 2SA798 VITC WAVEFORM SHAPER
IC 10 SN74LS00N
Q21 2SA1206 Q68 2SA1115
IC89 SN76LS02N
RV39; LEVEL CONT OFFSET
RV11; VIDEO METER
RV12; RF METER
RV1; BURST OFFSET
RV2; DEVIATION
RV3; CARRIER BALANCE
RV4
RV10; CHARACTER BLACK LEVEL
RV9; CHARACTER WHITE LEVEL
RV40; WHITE REF INSERTION START LINE
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
LPF 7.5MHz
TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP10 TP11
E1 E2 E4 E5
CN304 B5b GAIN CONT
CN304 B5a GAIN (+)
CN304 B5c GAIN (−)
CN304 B2b INPUT VID(MD)(X)
B2a INPUT VID(MD)(G)
B2c INPUT VID(MD)(G)
CN304 B4b VID/RF METER (X)
B4a VID/RF METER (G)
B4c VID/RF METER (G)
2/3 1 RF LEVEL
CN304 B6a VITC GEN
CN304 B6b VITC GATE
CN303 A17c CHARA SIG
CN303 A18c CHARA SIG DR
A18a CHARA GATE DR
A17a CHARA GATE
CN303 A21a PB V
VR,802-7b VR,802-8a VR,802-8b VS,321-12a VS,321-12b VR,802-9b VR,802-9a SY,A15a SY,A14c SY,A13a VS,321-22b VS,321-22a SY,A13c SV,SY-B13a RD,CK-A20b
IC87 SN74LS05N IC88 SN75107AN EQ PULSE SEPARATOR
IC89 SN74LS02N
3/3 2 PB SYNC
IC105 SN74LS08N TRAILING EDGE DET
IC85 SN74LS00N V WINDOW GATE
IC90 SN74LS221N IC105 SN74LS08N V(2ND EQ PULSE)DET
IC60 SN74LS221N PB V WINDOW GEN
IC106 SN74LS221N WHITE MARKER START TIMING
IC91 SN74LS74AN
IC92 SN74LS163N BINARY COUNTER FOR WHITE MARKER
IC93 SN74LS151N WHITE MARKER LINE SEL
IC94 SN74LS00N
IC96 SN74LS221N MARKER INHIBIT
IC95 SN74LS221N PB H DET
PB H
CN303 A21c PB H
2/3 27 H SYNC
SV,SY-B12a RD-A20c


IC4 BX1244 PEDESTAL CLAMP
IC43 TA7357AP SYNC SEP
IC44 SN74LS221N BURST FLAG GEN (3.4μS)
IC45 SN74LS221N H BLKG TIMING PULSE GEN
IC112 SN7407N
IC46 HD10116 7.682MHz OSC FOR AFC
IC47 HD10117 7.682MHz INSERTER
IC48 HD10116 IC49 HD10104 IC50 TL082CP FM DEMODULATOR FOR AFC
IC51 TL601CP BLK LEVEL SAMPLING
IC52 BX1244 SAMPLING FOR AFC
RIPPLE FILTER
SYNC SEP
HD GEN
TP2
TP3
TP6
TP7
TP8
TP9
TP10
TP11
E2
E3
E4
E5
AFC ERROR
Q8 2SC2512 Q3 2SC2512 REC RF EQUALIZER
IC14 BX-3931A
RV8; FREQ RESP
RV7; REC CURRENT
RV5; RF BALANCE
RV6; DG
CT1; DP
RV4; DG
RV3; CARRIER BALANCE
RV2; DEVIATION
Q6 2SA1223 Q7 2SA1223
IC11 MC10H116 FM MODULATOR
IC12 HD10116
IC13 HD10116
IC104 TL082CP
IC112 SN7407N
IC8 CX20158 BURST DOUBLER
IC9 CX20158 VITC INSERTER
IC101 NJM78L05A +5V REG
IC102 NJM79L05A -5V REG
Q55 2SC2458 Q2 2SC2512 Q4 2SC2512 Q5 2SC2512
Q67 2SA1115 PREEMPHASIS
IC10 SN74LS00N
6 BX-365A VIDEO AMP
LPF 7.5MHz
EE RF (X)
EE RF (Y)
TAPE / EE
~EE/MARKER
MARKER/EE
RF VIDEO(X)
RF VIDEO(G)
RF VIDEO(G)
REC SIG
+5V
-5V
+12V
-12V
GND
CN304
CN303
IC93 SN74LS151N WHITE MARKER LINE SEL
IC92 SN74LS163N BINARY COUNTER FOR WHITE MARKER
RV40; WHITE REF INSERTION START LINE
IC85 SN74LS00N V WINDOW GATE
IC90 SN74LS221N IC105 SN74LS08N V1/2ND EQ PULSE DET
IC106 SN74LS221N WHITE MARKER START TIMING
IC91 SN74LS74AN
IC60 SN74LS221N PB V WINDOW GEN
IC95 SN74LS221N PB H DET
IC94 SN74LS00N
IC96 SN74LS221N MARKER INHIBIT
PB V
PB H
IC99 CXD1095Q I/O EXPANDER
IC97, IC98 SN74LS04N
SV D0
SV D1
SV D2
SV D3
SV D4
SV D5
SV D6
SV D7
R172 ~ R179 47×8
SV A0
SV A1
SV A2
~ SV WR
~ SV RD
~ VO CS
~ RESET
PAL/SECAM
CTL MONI
RF ENV MONI
SEL VID MONI
TBC MONI
DEMOD MONI
INPUT MONI
TBC CHARA ON
NON COMP SEL
DT + NOR FWD
~ SYNC LACK
~ VIDEO LACK
COLOR / BW
EQ AUTO/MANU
PB HEAD SEL
RF V/S SW
FAST BIDIREX
OSC OFF
VO-16(1/3) BOARD
BOARD NO. 1-621-101-12
BVH-3000PS; #10001-10499
BVH-3100PS; #10001-10699

VO-16 BOARD (2/3)

Video Modulator/Demodulator


IC23 TL082CP INTEGRATOR
IC55 TL607CP EQ CONT SEL
IC23 TL0082CP EQ CONTROL DC AMP
Q11 2SC2512 PB RF BUFF
Q16,17 2SC2512
IC24 MC1595L RF EQUALIZER 1
Q18,19 2SC2512
IC15 SN74265N
IC16 SN74LS08N
IC17 BX-1306
IC18 BX-1306
IC19 BX-1306
IC29 BX-1306
PB RF SWITCHER
Q9 2SC1733
Q10 2SC2512
DG COMPENSATOR
IC20 TL082CP
IC103 TL607CP
PB HEAD SEL
IC21 μPC1663C
Q53,54 2SK523-K2 DP COMPENSATOR
Q37 2SC2512
Q12,13 2SC2512 RF EQUALIZER 2
IC22 μPC1663C
IC114 NJM78L05A +5V REG
IC115 NJM79L05A -5V REG
Q14,15 2SC2512
DL1 28nS
DL2 28ns
3/3 16 BURST LEVEL
CN304
VR,802-3b B27a EQ (+)
VR,802-4b B27c EQ (−)
VR,802-4a B27b EQ CONT
1/3 26 DT + NOR FWD
1/3 11 EQ AUTO/MANU
3/3 17 RF SW
CN303
RP,270-X A4b R/P VIDEO RF (X)
RP,270-G A4ac R/P VIDEO RF (G)
RP,266-X A7b R/P SYNC RF (X)
RP,266-G A7ac R/P SYNC RF (Y)
DRUM,271-X A11b PLAY VIDEO RF (X)
DRUM,271-G A11ac PLAY VIDEO RF (G)
DRUM,272-X A13b PLAY SYNC RF (X)
DRUM,272-G A13ad PLAY SYNC (G)
1/3 5 TAPE/EE
1/3 12 PB HEAD SEL
RV29; AUTO EQ LEVEL
RV30; EQ CONT
RV19; R/P VIDEO RF LEVEL
RV20; R/P SYNC RF LEVEL
RV21; PLAY VIDEO RF LEVEL
RV22; PLAY SYNC RF LEVEL
RV23; MASTER DG
RV24; PLAY DG OFFSET
RV25; PLAY DP
RV26; R/P DP
RV27; PLAY EQ
RV28; R/P EQ
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP37
E6
E7
SIG RF (X)
SIG RF (Y)
IC113 SN7407N
IC116 NJM78L05A +5V REG
IC34 TL082CP
IC117 TL607CP
IC118 TL607CP
RV35; R/P DEMOD BALANCE
RV36; PLAY DEMOD BALANCE
RV37; EE DEMOD BALANCE
Q65 2SC2458
Q26,27,28 2SC2512
Q29,30 2SA1206-K
RF AMP FOR DEMOD
FL3 DEMODULATOR
Q31,32,33,34,35 2SC2512 VIDEO AMP
Q40 2SC2512 DE-EMPHASIS
CN303 5V,A10a A22a DO GATE
3/3 23 J
3/3 24 H
3/3 25 I
IC31 AM6685 LIMITER
IC27 HD10117L TAPE/EE RF SELECT
IC32 HD10116L DELAY FOR DEMOD
IC33 HD10104L FREQ DOULER
FL3 LPF (5MHz)
1/3 13 RF V/S SW
RV33; PB RF BALANCE
RV34; DEMOD BALANCE
RV41; DE-EMPHASIS
TP26
TP27
TP28
TP29
TP36
E9
E12
1/3 3 EE RF (X)
1/3 4 EE RF (Y)
IC25 HD10116L EE RF
IC27 HD10117L EE RF/MARKER SEL
1/3 6 ~EE/MARKER
CP10
WHITE MARKER
IC26 HD10116L WHITE REF MARKER OSC
X2 8.9MHz
IC38 BX1244 AGC FOR DEMOD
IC36 TL082CP
IC113 SN7407N
Q66 2SA1115
IC59

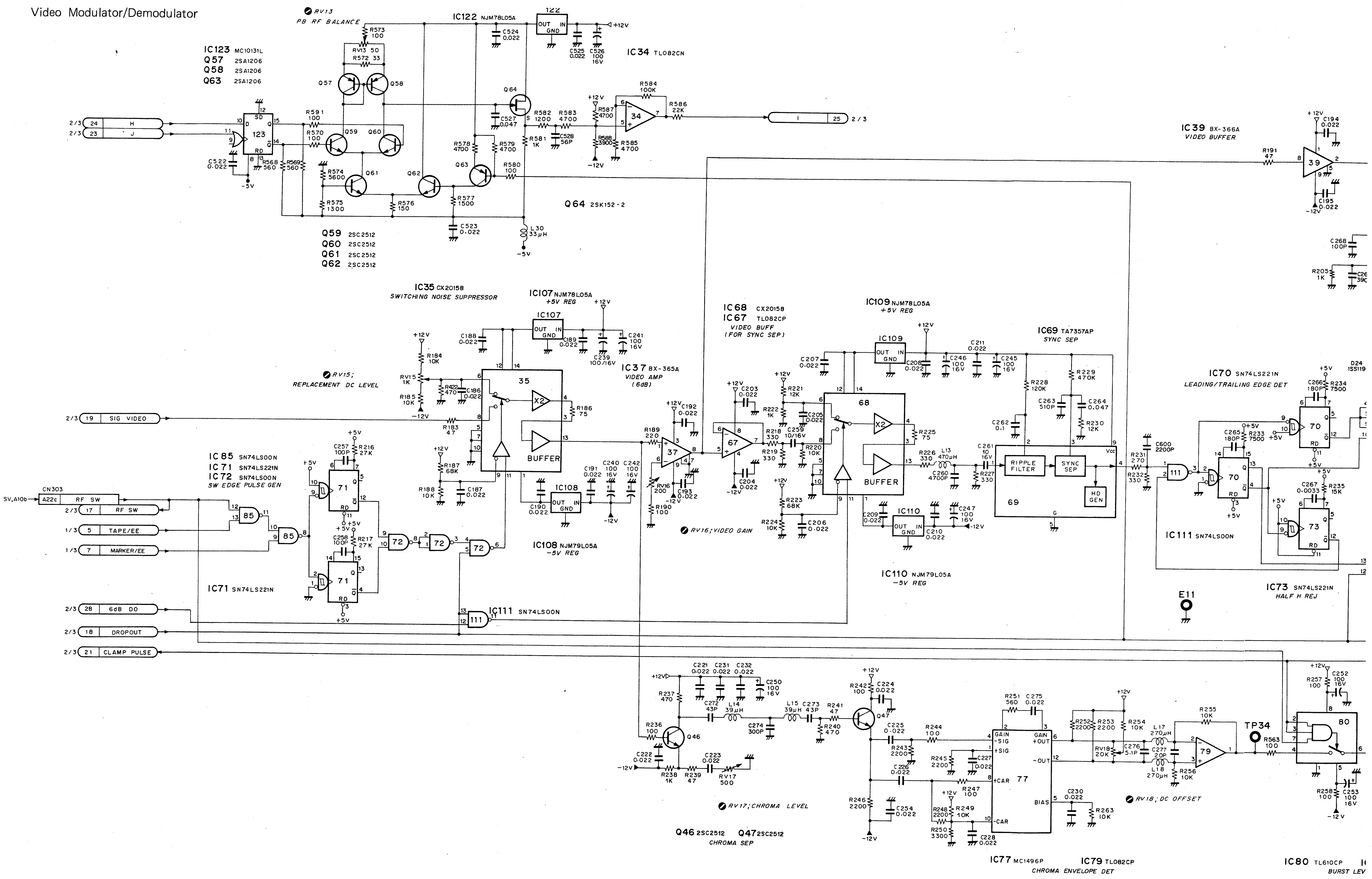

PB RF BUFF
Q16,17 2SC2512
IC24 MC1595L
RF EQUALIZER 1
Q18,19 2SC2512
TP17
TP18
DL1 28ns
IC21 µPC1663C
Q53,54 2SK523-K2
DP COMPENSATOR
Q37 2SC2512
Q12,13 2SC2512
RF EQUALIZER 2
IC22 µPC1663C
IC114 NJM78L05A
+5V REG
TP19
DL2 28ns
SIG RF (X)
SIG RF (Y)
IC115 NJM79L05A
-5V REG
E7
RV25; PLAY DP
RV26; R/P DP
Q14,15 2SC2512
RV27; PLAY EQ
RV28; R/P EQ
RV24; PLAY DG OFFSET
HEAD SEL
Q38 2SC1206-K
IC56 TL084CN
RF ENVELOPE DETECTOR
(PEAK DETECTOR)
TP20
Q43 2SK523-K2
SAMPLING & HOLD FOR RF METER
IC57 TL082CP
BUFFER FOR WFM SELECTOR
TP22
TP23
TP24
IC64 SN74LS123N
RF ENV A15c RD,B7c
RF LEVEL 1 1/3
RF ENVELOPE (X) A15a VS,320-9a
RF ENVELOPE (G) A15b VS,320-9b
H SYNC 27 1/3
RV31; DO SENSITIVITY(LEVEL)
Q41 2SA1206-K
Q42 2SC2512
RF ENV BUFF FOR DODET
Q39 2SA1206-K
RF AMP FOR DO DET
IC61 SN75107AN
IC62 SN74LS123N
DROPOUT DET
Q44 2SC2512
6dB DO 28 3/3
Q45 DTA114ES
E8
FAST BIDIREX 14 1/3
IC63 SN74LS00N
IC64 SN74LS123N
IC65 SN74LS123N
IC66 SN74265N
RV32; DO SENSITIVITY (WIDTH)
TP25
DO PULSE
DROPOUT 18 3/3
DROPOUT 1 A20a SY,A9c
DROPOUT 2 A20c CK,A21b
TP21
~SYNC LACK 8 1/3
~VIDEO LACK 9 1/3
IC118 TL607CP
RV35; R/P DEMOD BALANCE
RV36; PLAY DEMOD BALANCE
Q65 2SC2458
Q26,27,28 2SC2512
Q29,30 2SA1206-K
RF AMP FOR DEMOD
FL3 DEMODULATOR
Q31,32,33,34,35 2SC2512
VIDEO AMP
Q40 2SC2512
DE-EMPHASIS
E9
TP27
TP28
LPF (5MHz)
TP29
IC32 HD10116L
AY FOR DEMOD
IC33 HD10104L
FREQ DOULER
IC38 BX1244
IC36 TL082CP
AGC FOR DEMOD
RV41; DE-EMPHASIS
IC59 SN74LS00N
IC58 SN74LS221N
IC60 SN74LS221N
CN303
SV,A10a A22a DO GATE
1/3 13 RF W/S SW
SIG VIDEO 19 3/3
G 20 3/3
CLAMP PULSE 21 3/3
IC113 SN7407N
Q66 2SA1115
IC26 HD10116L
WHITE REF MARKER OSC
X2 8.9MHz
OSC OFF 15 1/3

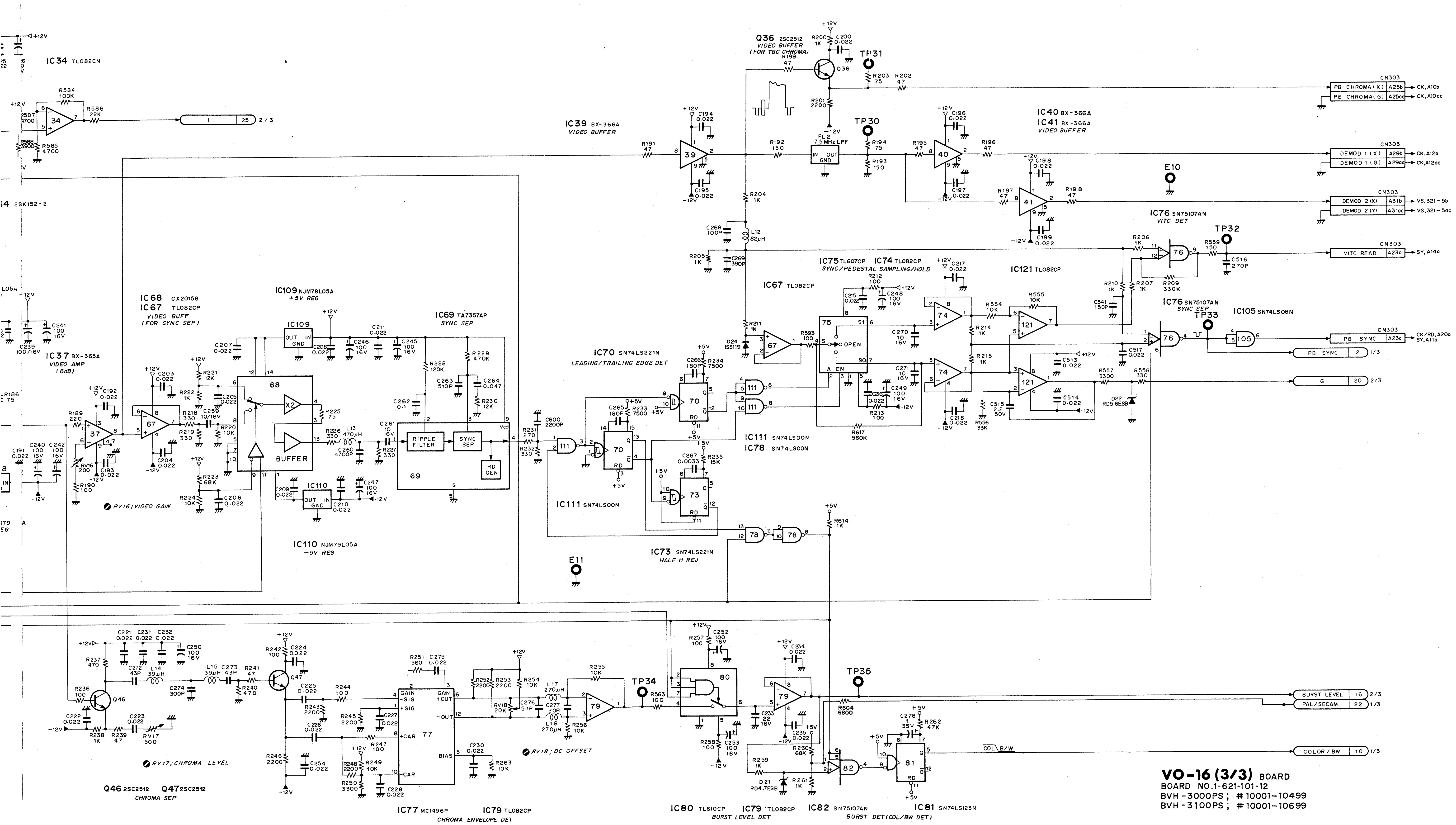
VO-16 BOARD (2/3)

BOARD NO. 1-621-101-12
BVH-3000PS ; #10001-10499
BVH-3100PS ; #10001-10699

VO-16 BOARD (3/3)

Video Modulator/Demodulator

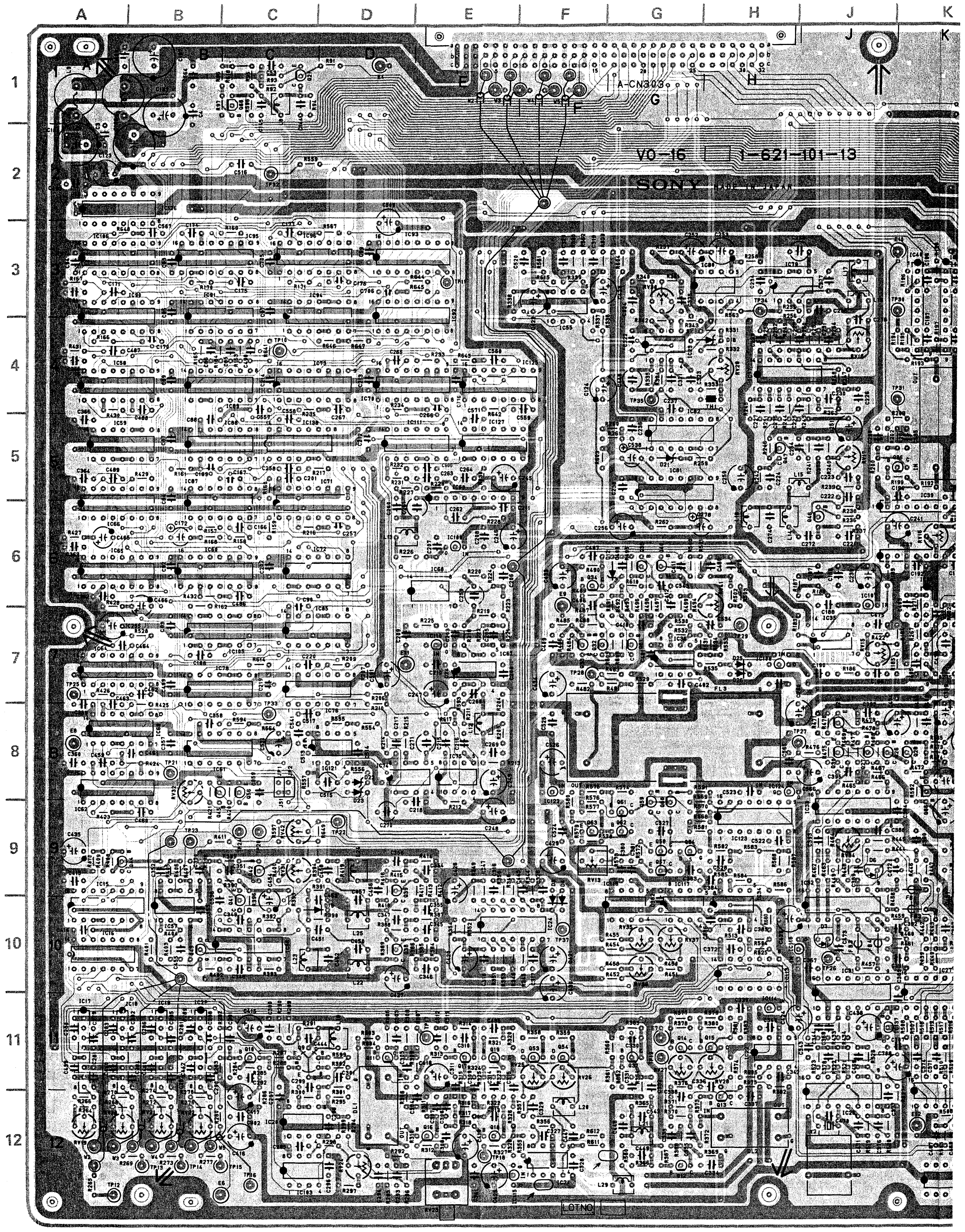

IC123 MC10131L
Q57 2SA1206
Q58 2SA1206
Q63 2SA1206
Q59 2SC2512
Q60 2SC2512
Q61 2SC2512
Q62 2SC2512
Q64 2SK152-2
RV13 PB RF BALANCE
IC122 NJM78L05A
IC34 TL082CN
IC39 BX-366A VIDEO BUFFER
IC35 CX20158 SWITCHING NOISE SUPPRESSOR
IC107 NJM78L05A +5V REG
RV15; REPLACEMENT DC LEVEL
IC37 BX-365A VIDEO AMP (6dB)
IC108 NJM79L05A -5V REG
IC68 CX20158
IC67 TL082CP VIDEO BUFF (FOR SYNC SEP)
IC109 NJM78L05A +5V REG
IC69 TA7357AP SYNC SEP
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
RV16; VIDEO GAIN
IC110 NJM79L05A -5V REG
IC70 SN74LS221N LEADING/TRAILING EDGE DET
IC111 SN74LS00N
IC73 SN74LS221N HALF H REJ
E11
IC85 SN74LS00N
IC71 SN74LS221N
IC72 SN74LS00N
SW EDGE PULSE GEN
IC71 SN74LS221N
IC111 SN74LS00N
CN303
SV,A10b A22c RF SW
2/3 24 H
2/3 23 J
2/3 25 I
2/3 19 SIG VIDEO
2/3 17 RF SW
1/3 5 TAPE/EE
1/3 7 MARKER/EE
2/3 28 6dB DO
2/3 18 DROPOUT
2/3 21 CLAMP PULSE
RV17; CHROMA LEVEL
Q46 2SC2512 Q47 2SC2512 CHROMA SEP
IC77 MC1496P
IC79 TL082CP CHROMA ENVELOPE DET
RV18; DC OFFSET
TP34
IC80 TL610CP BURST LEV

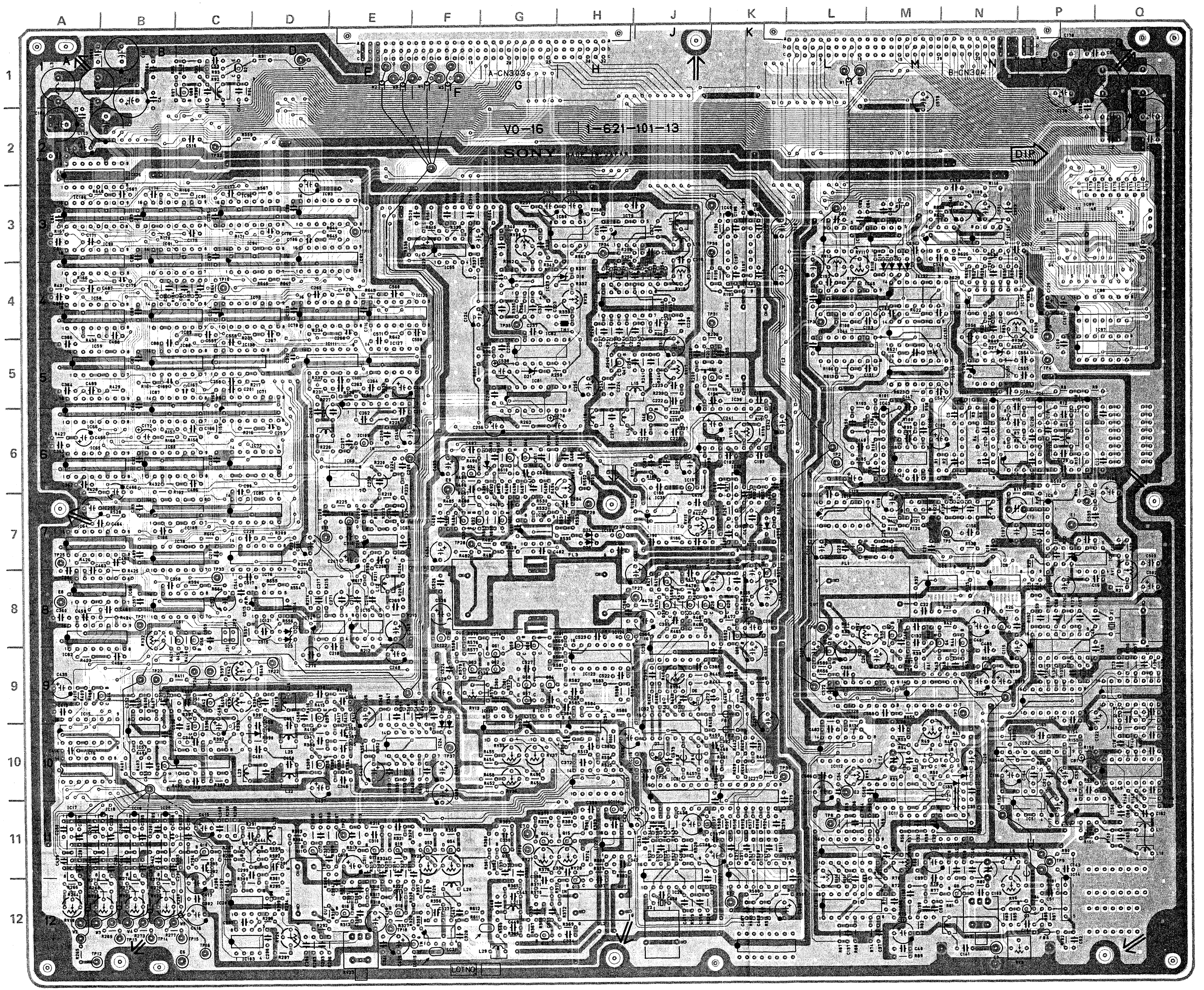

IC34 TL082CN
Q36 2SC2512 VIDEO BUFFER (FOR TBC CHROMA)
TP31
TP30
TP32
TP33
TP34
TP35
E10
E11
IC39 BX-366A VIDEO BUFFER
IC40 BX-366A
IC41 BX-366A VIDEO BUFFER
FL2 7.5 MHz LPF
IC76 SN75107AN VITC DET
IC76 SN75107AN SYNC SEP
IC105 SN74LS08N
IC75 TL607CP IC74 TL082CP SYNC/PEDESTAL SAMPLING/HOLD
IC121 TL082CP
IC67 TL082CP
IC68 CX20158
IC67 TL082CP VIDEO BUFF (FOR SYNC SEP)
IC109 NJM78L05A +5V REG
IC110 NJM79L05A −5V REG
IC69 TA7357AP SYNC SEP
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
IC37 BX-365A VIDEO AMP (6dB)
RV16; VIDEO GAIN
IC70 SN74LS221N LEADING/TRAILING EDGE DET
IC111 SN74LS00N
IC111 SN74LS00N
IC78 SN74LS00N
IC73 SN74LS221N HALF H REJ
CN303
PB CHROMA (X) A25b CK,A10b
PB CHROMA (G) A25ac CK,A10ac
DEMOD 1 (X) A29b CK,A12b
DEMOD 1 (G) A29ac CK,A12ac
DEMOD 2 (X) A31b VS,321−5b
DEMOD 2 (Y) A31ac VS,321−5ac
VITC READ A23a SY,A14a
PB SYNC A23c CK/RD,A20a SY,A11a
PB SYNC 2 1/3
G 20 2/3
I 25 2/3
BURST LEVEL 16 2/3
PAL/SECAM 22 1/3
COLOR/BW 10 1/3
COL\B/W
Q46 2SC2512 Q47 2SC2512 CHROMA SEP
RV17; CHROMA LEVEL
IC77 MC1496P IC79 TL082CP CHROMA ENVELOPE DET
RV18; DC OFFSET
IC80 TL610CP IC79 TL082CP BURST LEVEL DET
IC82 SN75107AN BURST DET (COL/BW DET)
IC81 SN74LS123N

VO-16 (3/3) BOARD
BOARD NO.1-621-101-12
BVH-3000PS ; #10001-10499
BVH-3100PS ; #10001-10699

VO-16 BOARD (1-621-101-13)

Component Side


A
B
C
D
E
F
G
H
J
K
1
2
3
4
5
6
7
8
9
10
11
12
A-CN303
VO-16
1-621-101-13
SONY



1-621-101-13 SOLDER SIDE

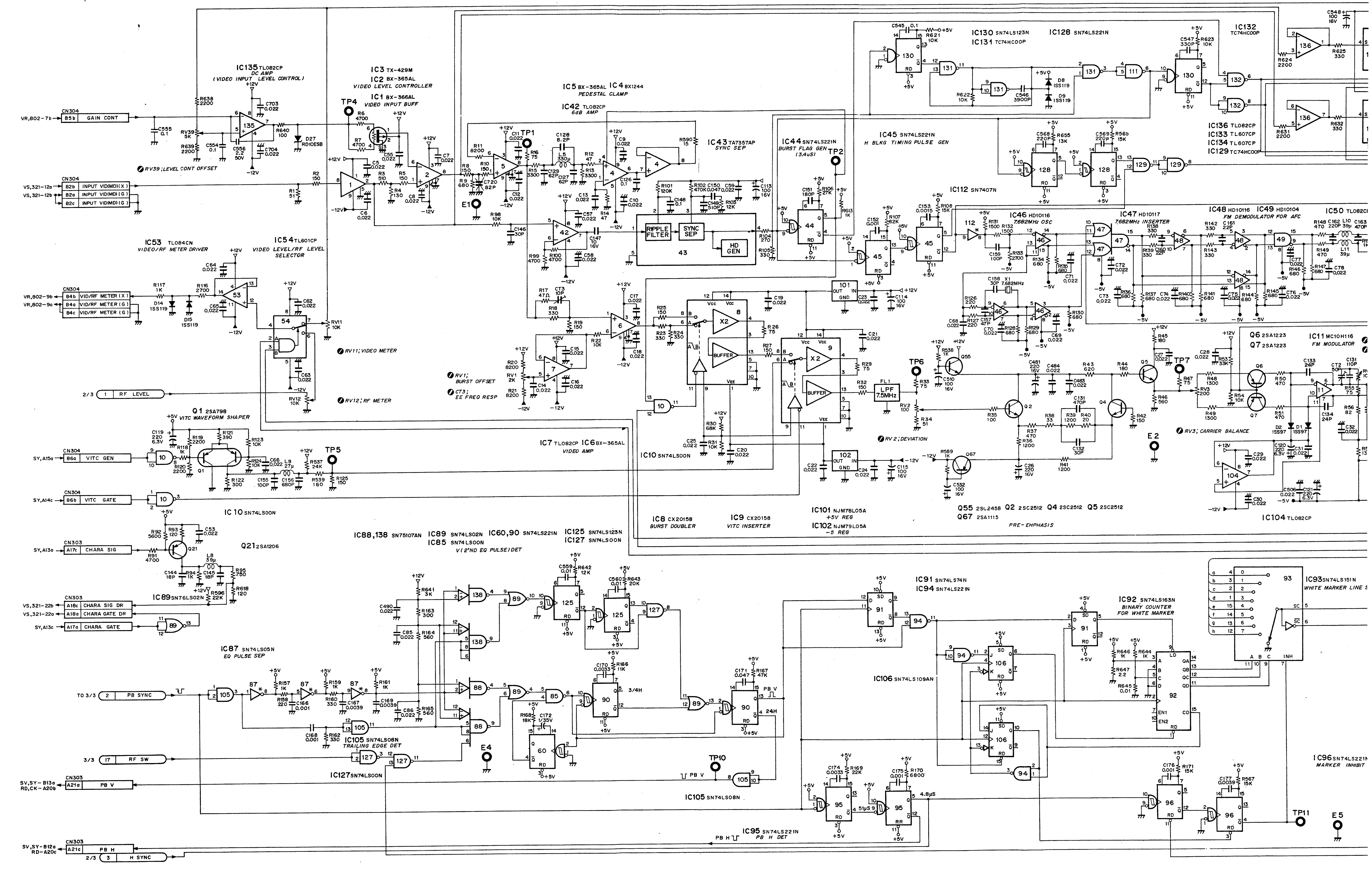
VO-16 (1-621-101-13)

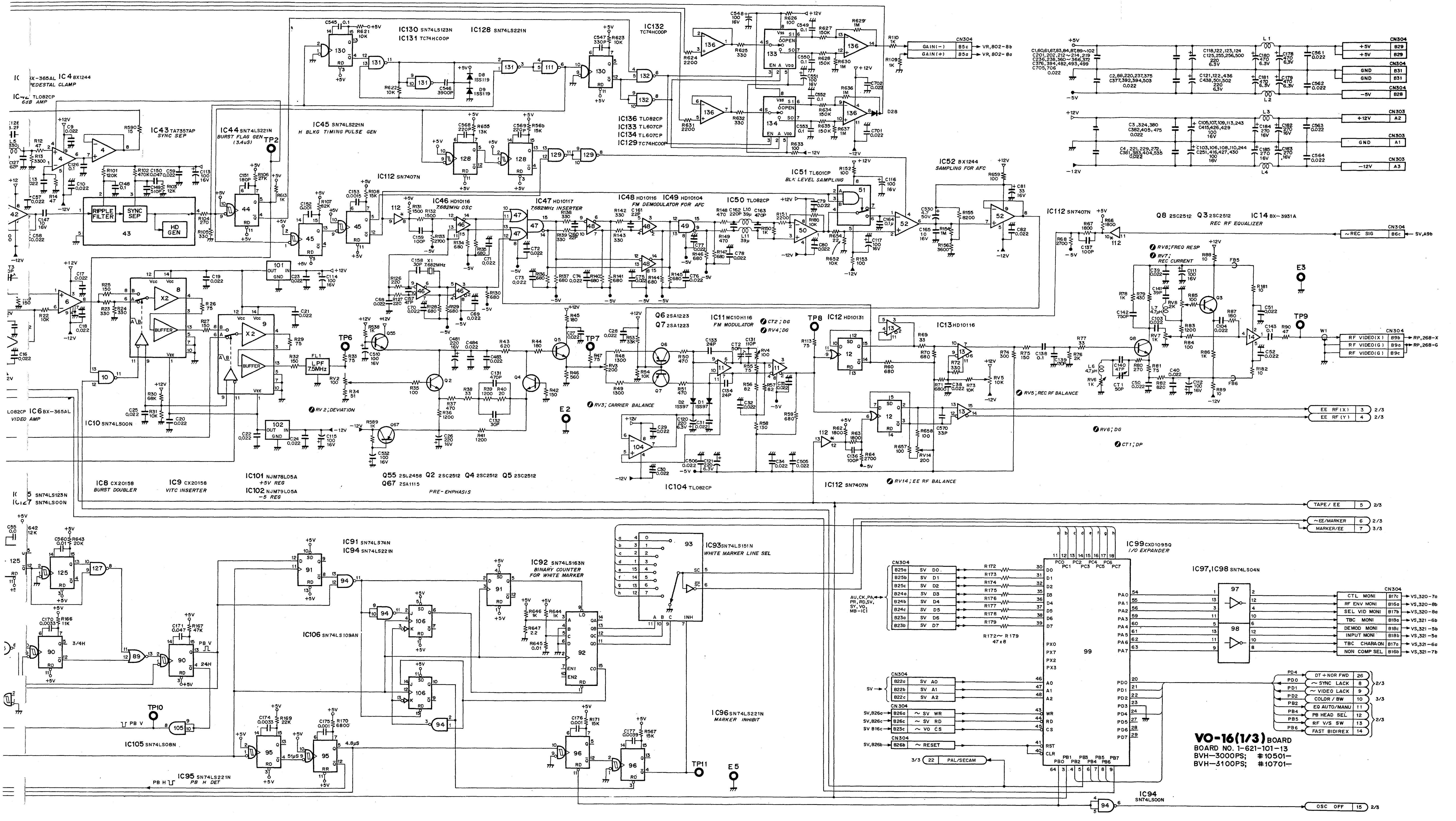
BVH-3000/PS
BVH-3100/PS

CN303	G1
CN304	N1
CT1	N11
CT2	M10
CT3	N7
D1	N10
D2	N10
D3	F10
D4	F10
D6	J9
D7	J10
D8	M4
D9	M4
D10	K7
D12	G6
D14	M4
D15	M4
D18	H4
D19	C10
D21	G5
D22	D8
D24	E7
D25	H7
D26	H7
D27	N5
DL1	D12
DL2	H12
E1	P7
E2	L10
E3	N12
E4	D1
E5	P5
E6	B12
E7	G11
E8	A8
E9	F6
E10	K3
E11	D7
E12	K12
FB1	K9
FB2	K10
FB3	J10
FB4	J10
FB5	P12
FB6	P12
FL1	L8
FL2	K5
FL3	H8
IC1	N6
IC2	N6
IC3	N6
IC4	P6
IC5	P6
IC6	P7
IC7	P7
IC8	N8
IC9	N8
IC10	L7
IC11	M10
IC12	L11
IC13	L12
IC14	P12
IC15	A10
IC16	A10
IC17	A11
IC18	A11
IC19	B11
IC20	C12
IC21	F12
IC22	H11
IC23	G4
IC24	F10
IC25	K11
IC26	J11
IC27	K10
IC29	B11
IC31	J10
IC32	J10
IC33	J9
IC34	H10
IC35	J7
IC36	G7
IC37	K6
IC38	K6
IC39	K6
IC40	K3
IC41	K3
IC42	M6
IC43	M6
IC44	L5
IC45	L4
IC46	P9
IC47	P9
IC48	Q9
IC49	Q10
IC50	P11
IC51	P11
IC52	P10
IC53	M3
IC54	L3
IC55	F3
IC56	C10
IC57	B10
IC58	A4
IC59	A5
IC60	B6
IC61	B8
IC62	A8
IC63	A8
IC64	A7
IC65	A6
IC66	A6
IC67	E7
IC68	E6
IC69	E5
IC70	D4
IC71	C6
IC72	C6
IC73	C4
IC74	D8
IC75	E8
IC76	C7
IC77	H4
IC78	B7
IC79	H3
IC80	H3
IC81	G5
IC82	G5
IC85	C7
IC87	B5
IC88	B5
IC89	B4
IC90	A3
IC91	B3
IC92	E3
IC93	D3
IC94	C3
IC95	B3
IC96	C3
IC97	Q5
IC98	Q4
IC99	P3
IC101	L7
IC102	N8
IC103	C12
IC104	N11
IC105	B7
IC106	A3
IC107	J7
IC108	H7
IC109	E6
IC110	E7
IC111	D5
IC112	L10
IC113	H10
IC114	H11
IC115	E12
IC116	H10
IC117	G10
IC118	G10
IC121	D8
IC122	F8
IC123	H9
IC124	H8
IC125	E4
IC126	A2
IC127	E5
IC128	M9
IC129	M9
IC130	M5
IC131	M5
IC132	M4
IC133	N3
IC134	N3
IC135	N5
IC136	N4
IC137	J11
IC138	C5
JP1	C8
JP2	C8
Q1	M7
Q2	M8
Q3	P12
Q4	M9
Q5	N9
Q6	M10
Q7	M10
Q8	N12
Q9	C11
Q10	C11
Q11	D11
Q12	G12
Q13	H12
Q14	G11
Q15	H11
Q16	E12
Q17	E11
Q18	E12
Q19	E11
Q21	C1
Q26	J8
Q27	J8
Q28	K8
Q29	J8
Q30	J8
Q31	G7
Q32	F7
Q33	F7
Q34	F6
Q35	G6
Q36	J5
Q37	G11
Q38	D10
Q39	D9
Q40	G6
Q41	C10
Q42	C9
Q43	B10
Q44	A9
Q45	B8
Q46	J6
Q47	H5
Q53	F11
Q54	F11
Q55	N9
Q56	C8
Q57	G9
Q58	G9
Q59	G9
G60	G9
Q61	G9
Q62	G9
Q63	F9
Q64	G9
Q65	K8
Q66	K8
Q67	L9
Q68	C1
RV1	Q8
RV2	L8
RV3	M10
RV5	M11
RV6	N12
RV7	N12
RV8	N12
RV11	L4
RV12	L4
RV13	F9
RV14	L12
RV15	J7
RV16	K6
RV17	J5
RV18	J4
RV19	A12
RV20	A12
RV21	B12
RV22	B12
RV23	E12
RV24	D12
RV25	F11
RV26	F11
RV27	G11
RV28	H11
RV29	H4
RV30	G3
RV31	C9
RV32	B8
RV34	J9
RV35	G10
RV36	G10
RV37	G10
RV39	N4
RV41	H6
RV42	C9
TH1	H4
TP1	P7
TP2	L6
TP3	L4
TP4	P5
TP5	N7
TP6	L8
TP7	N9
TP8	L11
TP9	P11
TP10	C4
TP11	E3
TP12	A12
TP13	B12
TP14	B12
TP15	B12
TP16	C12
TP17	E11
TP18	E12
TP20	C9
TP21	B8
TP22	D9
TP23	B9
TP24	C9
TP25	A7
TP26	J10
TP27	H8
TP28	F7
TP29	H7
TP30	J3
TP31	J4
TP32	C2
TP33	C8
TP34	H3
TP35	G4
TP36	K10
TP37	F10
X1	Q8
X2	J12

VO-16 BOARD (1/3)

Video Modulator/Demodulator

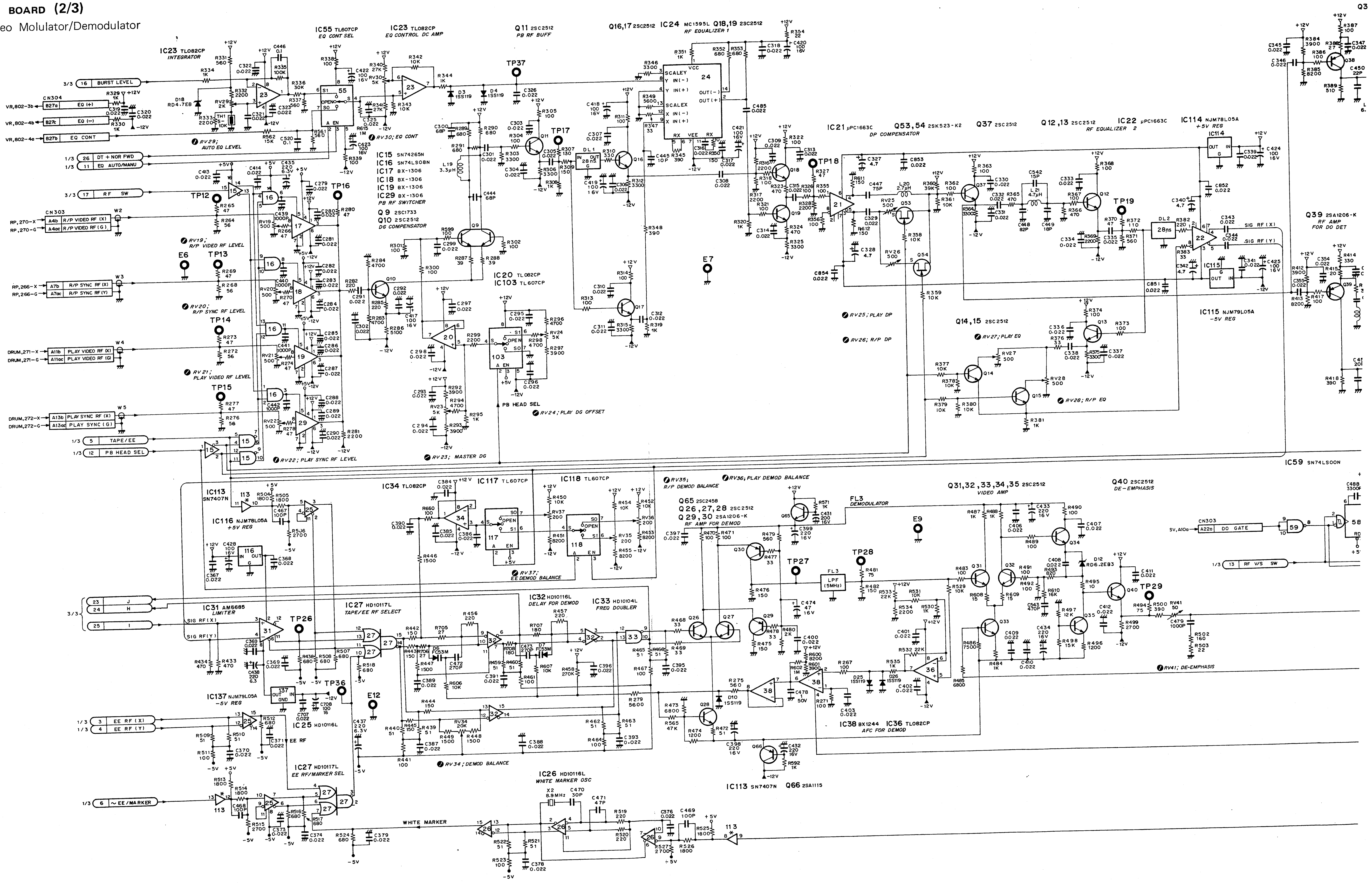

IC135 TL082CP DC AMP (VIDEO INPUT LEVEL CONTROL)
IC3 TX-429M
IC2 BX-365AL VIDEO LEVEL CONTROLLER
IC1 BX-366AL VIDEO INPUT BUFF
IC5 BX-365AL IC4 BX1244 PEDESTAL CLAMP
IC42 TL082CP 6dB AMP
IC43 TA7357AP SYNC SEP
IC44 SN74LS221N BURST FLAG GEN (3.4uS)
IC45 SN74LS221N H BLKG TIMING PULSE GEN
IC130 SN74LS123N
IC131 TC74HC00P
IC128 SN74LS221N
IC132 TC74HC00P
IC136 TL082CP
IC133 TL607CP
IC134 TL607CP
IC129 TC74HC00P
IC112 SN7407N
IC46 HD10116 7.682MHz OSC
IC47 HD10117 7.682MHz INSERTER
IC48 HD10116 IC49 HD10104 FM DEMODULATOR FOR AFC
IC50 TL082C
IC53 TL084CN VIDEO/RF METER DRIVER
IC54 TL601CP VIDEO LEVEL/RF LEVEL SELECTOR
IC7 TL082CP IC6 BX-365AL VIDEO AMP
IC10 SN74LS00N
IC8 CX20158 BURST DOUBLER
IC9 CX20158 VITC INSERTER
IC101 NJM78L05A +5V REG
IC102 NJM79L05A -5 REG
Q55 2SL2458 Q2 2SC2512 Q4 2SC2512 Q5 2SC2512
Q67 2SA1115
PRE-EHPHASIS
Q6 2SA1223
Q7 2SA1223
IC11 MC10H116 FM MODULATOR
IC104 TL082CP
Q1 2SA798 VITC WAVEFORM SHAPER
Q21 2SA1206
IC89 SN76LS02N
IC88,138 SN75107AN IC89 SN74LS02N IC60,90 SN74LS221N
IC85 SN74LS00N V(2'ND EQ PULSE)DET
IC125 SN74LS123N
IC127 SN74LS00N
IC87 SN74LS05N EQ PULSE SEP
IC105 SN74LS08N TRAILING EDGE DET
IC127 SN74LS00N
IC105 SN74LS08N
IC95 SN74LS221N PB H DET
IC91 SN74LS74N
IC94 SN74LS221N
IC106 SN74LS109AN
IC92 SN74LS163N BINARY COUNTER FOR WHITE MARKER
IC93 SN74LS151N WHITE MARKER LINE
IC96 SN74LS221N MARKER INHIBIT
RV39; LEVEL CONT OFFSET
RV11; VIDEO METER
RV12; RF METER
RV1; BURST OFFSET
CT3; EE FREQ RESP
RV2; DEVIATION
RV3; CARRIER BALANCE
TP1 TP2 TP4 TP5 TP6 TP7 TP10 TP11
E1 E2 E4 E5
VR,802-7b CN304 B5b GAIN CONT
VS,321-12a B2b INPUT VID(MD)(X)
VS,321-12b B2a INPUT VID(MD)(G)
B2c INPUT VID(MD)(G)
VR,802-9b B4b VID/RF METER (X)
VR,802-9a B4a VID/RF METER (G)
B4c VID/RF METER (G)
2/3 1 RF LEVEL
SY,A15a CN304 B6a VITC GEN
SY,A14c CN304 B6b VITC GATE
SY,A13a CN303 A17c CHARA SIG
VS,321-22b CN303 A18c CHARA SIG DR
VS,321-22a A18a CHARA GATE DR
SY,A13c A17a CHARA GATE
TO 3/3 2 PB SYNC
3/3 17 RF SW
SV,SY-B13a RD,CK-A20b CN303 A21d PB V
SV,SY-B12a RD-A20c CN303 A21c PB H
2/3 3 H SYNC
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
LPF 7.5MHz
X1 7.682MHz

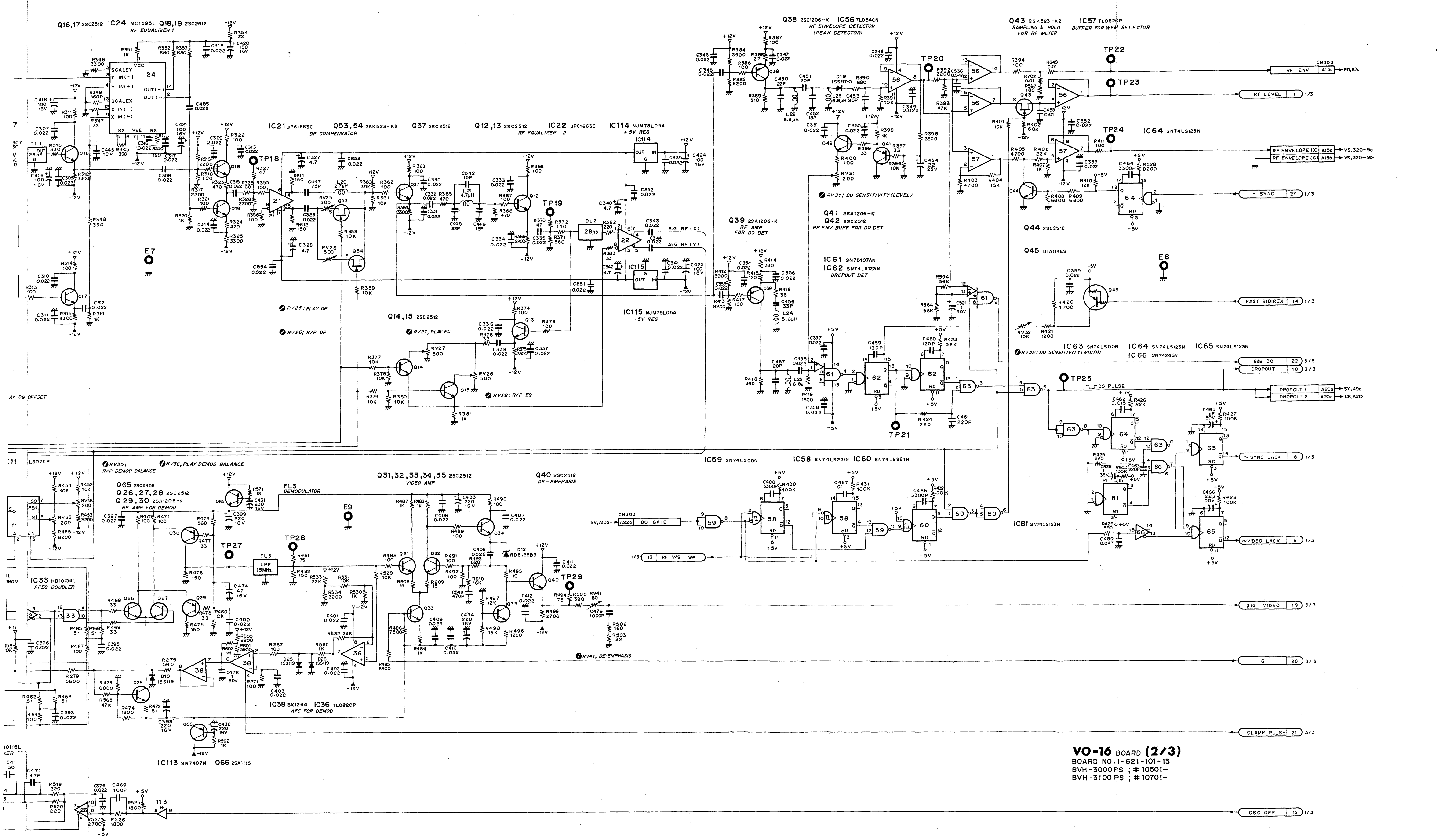

IC4 BX1244 PEDESTAL CLAMP
TL082CP 6dB AMP
IC43 TA7357AP SYNC SEP
IC44 SN74LS221N BURST FLAG GEN (3.4uS)
IC45 SN74LS221N H BLKG TIMING PULSE GEN
IC130 SN74LS123N
IC131 TC74HC00P
IC128 SN74LS221N
IC132 TC74HC00P
IC136 TL082CP
IC133 TL607CP
IC134 TL607CP
IC129 TC74HC00P
IC112 SN7407N
IC46 HD10116 7.682MHz OSC
IC47 HD10117 7.682MHz INSERTER
IC48 HD10116 IC49 HD10104 FM DEMODULATOR FOR AFC
IC50 TL082CP
IC51 TL601CP BLK LEVEL SAMPLING
IC52 BX1244 SAMPLING FOR AFC
IC112 SN7407N
Q8 2SC2512 Q3 2SC2512 IC14 BX-3931A REC RF EQUALIZER
IC6 BX-365AL VIDEO AMP
IC10 SN74LS00N
IC8 CX20158 BURST DOUBLER
IC9 CX20158 VITC INSERTER
IC101 NJM78L05A +5V REG
IC102 NJM79L05A -5 REG
Q55 2SL2458 Q2 2SC2512 Q4 2SC2512 Q5 2SC2512
Q67 2SA1115
PRE-EMPHASIS
Q6 2SA1223
Q7 2SA1223
IC11 MC10H116 FM MODULATOR
IC12 HD10131
IC13 HD10116
IC104 TL082CP
IC112 SN7407N
RV2; DEVIATION
RV3; CARRIER BALANCE
RV8; FREQ RESP
RV7; REC CURRENT
RV5; REC RF BALANCE
RV6; DG
CT1; DP
CT2; DG
RV4; DG
RV14; EE RF BALANCE
LPF 7.5MHz
TP2 TP6 TP7 TP8 TP9 TP10 TP11
E2 E3 E5
GAIN(−) GAIN(+) VR, 802-8b VR, 802-8a
REC SIG SV, A9b
RF VIDEO(X) RF VIDEO(G) RF VIDEO(G) RP, 268-X RP, 268-G
EE RF(X) EE RF(Y) 2/3
TAPE / EE
~EE/MARKER
MARKER/EE
IC125 SN74LS123N
IC127 SN74LS00N
IC91 SN74LS74N
IC94 SN74LS221N
IC92 SN74LS163N BINARY COUNTER FOR WHITE MARKER
IC93 SN74LS151N WHITE MARKER LINE SEL
IC106 SN74LS109AN
IC96 SN74LS221N MARKER INHIBIT
IC105 SN74LS08N
IC95 SN74LS221N PB H DET
PB V
PB H
IC99 CXD1095Q I/O EXPANDER
IC97, IC98 SN74LS04N
CTL MONI
RF ENV MONI
SEL VID MONI
TBC MONI
DEMOD MONI
INPUT MONI
TBC CHARA ON
NON COMP SEL
DT+NOR FWD
~SYNC LACK
~VIDEO LACK
COLOR / BW
EQ AUTO/MANU
PB HEAD SEL
RF V/S SW
FAST BIDIREX
PAL/SECAM
OSC OFF
IC94 SN74LS00N
SV D0 SV D1 SV D2 SV D3 SV D4 SV D5 SV D6 SV D7
SV A0 SV A1 SV A2
~SV WR ~SV RD ~VO CS ~RESET
R172~R179 47×8
CN304 CN303

VO-16(1/3) BOARD
BOARD NO. 1-621-101-13
BVH-3000PS; #10501-
BVH-3100PS; #10701-

VO-16 BOARD (2/3)

Video Molulator/Demodulator

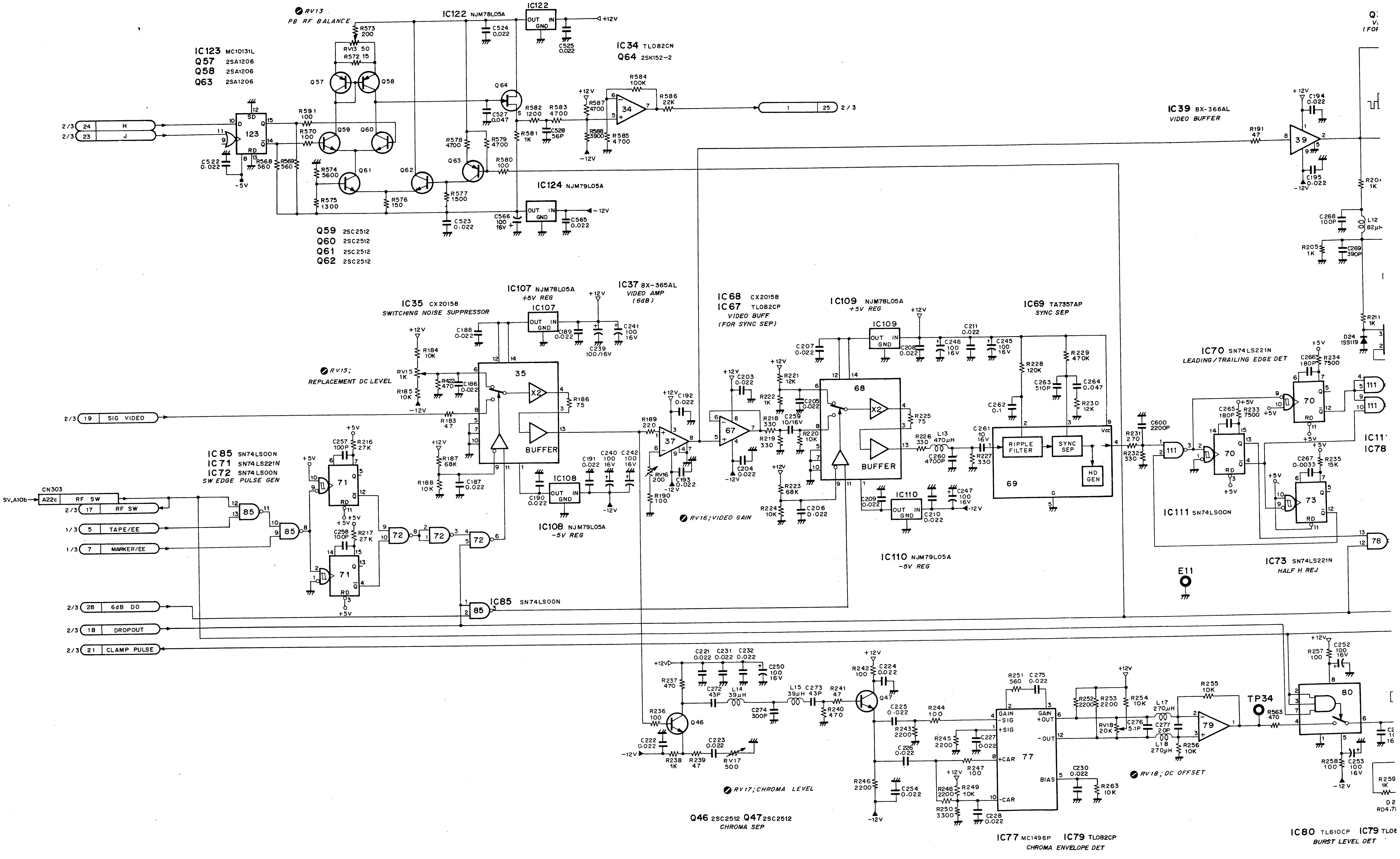

IC23 TL082CP INTEGRATOR
IC55 TL607CP EQ CONT SEL
IC23 TL082CP EQ CONTROL DC AMP
Q11 2SC2512 PB RF BUFF
Q16,17 2SC2512
IC24 MC1595L RF EQUALIZER 1
Q18,19 2SC2512
IC21 μPC1663C DP COMPENSATOR
Q53,54 2SK523-K2
Q37 2SC2512
Q12,13 2SC2512 RF EQUALIZER 2
IC22 μPC1663C
IC114 NJM78L05A +5V REG
Q39 2SA1206-K RF AMP FOR DO DET
IC115 NJM79L05A -5V REG
Q14,15 2SC2512
IC15 SN74265N
IC16 SN74LS08N
IC17 BX-1306
IC18 BX-1306
IC19 BX-1306
IC29 BX-1306 PB RF SWITCHER
Q9 2SC1733
Q10 2SC2512 DG COMPENSATOR
IC20 TL082CP
IC103 TL607CP
PB HEAD SEL
BURST LEVEL
EQ (+)
EQ (−)
EQ CONT
DT + NOR FWD
EQ AUTO/MANU
RF SW
R/P VIDEO RF (X)
R/P VIDEO RF (G)
R/P SYNC RF (X)
R/P SYNC RF (Y)
PLAY VIDEO RF (X)
PLAY VIDEO RF (G)
PLAY SYNC RF (X)
PLAY SYNC (G)
TAPE/EE
PB HEAD SEL
RV29; AUTO EQ LEVEL
RV30; EQ CONT
RV19; R/P VIDEO RF LEVEL
RV20; R/P SYNC RF LEVEL
RV21; PLAY VIDEO RF LEVEL
RV22; PLAY SYNC RF LEVEL
RV23; MASTER DG
RV24; PLAY DG OFFSET
RV25; PLAY DP
RV26; R/P DP
RV27; PLAY EQ
RV28; R/P EQ
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP37
E6
E7
IC59 SN74LS00N
IC113 SN7407N
IC116 NJM78L05A +5V REG
IC34 TL082CP
IC117 TL607CP
IC118 TL607CP
RV35; R/P DEMOD BALANCE
RV36; PLAY DEMOD BALANCE
RV37; EE DEMOD BALANCE
Q65 2SC2458
Q26,27,28 2SC2512
Q29,30 2SA1206-K RF AMP FOR DEMOD
FL3 DEMODULATOR
Q31,32,33,34,35 2SC2512 VIDEO AMP
Q40 2SC2512 DE-EMPHASIS
DO GATE
RF V/S SW
IC31 AM6685 LIMITER
IC27 HD10117L TAPE/EE RF SELECT
IC32 HD10116L DELAY FOR DEMOD
IC33 HD10104L FREQ DOUBLER
SIG RF(X)
SIG RF(Y)
TP26
TP36
TP27
TP28
TP29
E9
E12
LPF (5MHz)
IC137 NJM79L05A -5V REG
IC25 HD10116L
EE RF
EE RF (X)
EE RF (Y)
IC27 HD10117L EE RF/MARKER SEL
~EE/MARKER
WHITE MARKER
IC26 HD10116L WHITE MARKER OSC
X2 8.9MHz
RV34; DEMOD BALANCE
RV41; DE-EMPHASIS
IC38 BX1244
IC36 TL082CP AFC FOR DEMOD
IC113 SN7407N
Q66 2SA1115
DL1 28nS
DL2 28ns
L19 3.3μH
L20 2.7μH
L21 4.7μH

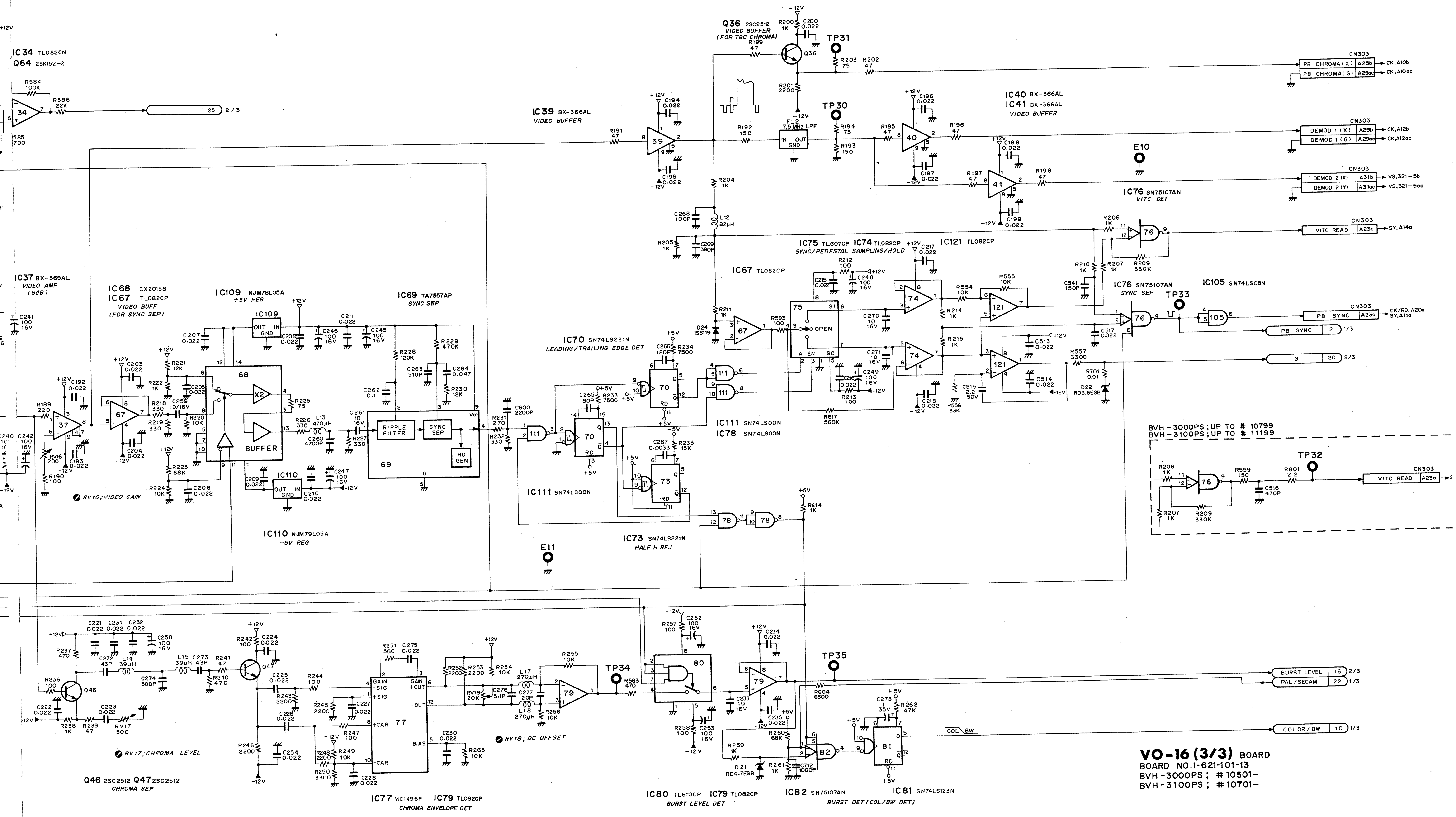

Q16,17 2SC2512 IC24 MC1595L Q18,19 2SC2512
RF EQUALIZER 1
IC21 μPC1663C Q53,54 2SK523-K2 Q37 2SC2512 Q12,13 2SC2512 IC22 μPC1663C IC114 NJM78L05A
DP COMPENSATOR
RF EQUALIZER 2
+5V REG
IC115 NJM79L05A
-5V REG
TP18
TP19
E7
DL1 28nS
DL2 28ns
SIG RF (X)
SIG RF (Y)
RV25; PLAY DP
RV26; R/P DP
Q14,15 2SC2512
RV27; PLAY EQ
RV28; R/P EQ
AY DG OFFSET
Q38 2SC1206-K IC56 TL084CN
RF ENVELOPE DETECTOR (PEAK DETECTOR)
Q43 2SK523-K2 IC57 TL082CP
SAMPLING & HOLD FOR RF METER
BUFFER FOR WFM SELECTOR
TP20
TP22
TP23
TP24
TP25
TP21
IC64 SN74LS123N
RF ENV A15c RD,B7c
RF LEVEL 1 1/3
RF ENVELOPE (X) A15a VS,320-9a
RF ENVELOPE (G) A15b VS,320-9b
H SYNC 27 1/3
RV31; DO SENSITIVITY(LEVEL)
Q41 2SA1206-K
Q42 2SC2512
RF ENV BUFF FOR DO DET
Q39 2SA1206-K
RF AMP FOR DO DET
Q44 2SC2512
Q45 DTA114ES
IC61 SN75107AN
IC62 SN74LS123N
DROPOUT DET
E8
FAST BIDIREX 14 1/3
RV32; DO SENSITIVITY(WIDTH)
IC63 SN74LS00N IC64 SN74LS123N IC65 SN74LS123N
IC66 SN74265N
64B DO 22 3/3
DROPOUT 18 3/3
DO PULSE
DROPOUT 1 A20a SY,A9c
DROPOUT 2 A20c CK,A21b
~ SYNC LACK 8 1/3
~VIDEO LACK 9 1/3
IC59 SN74LS00N
IC58 SN74LS221N IC60 SN74LS221N
IC81 SN74LS123N
SV,A10a A22a DO GATE
1/3 13 RF V/S SW
RV35; R/P DEMOD BALANCE
RV36; PLAY DEMOD BALANCE
Q65 2SC2458
Q26,27,28 2SC2512
Q29,30 2SA1206-K
RF AMP FOR DEMOD
FL3 DEMODULATOR
LPF (5MHz)
E9
TP27
TP28
TP29
Q31,32,33,34,35 2SC2512
VIDEO AMP
Q40 2SC2512
DE-EMPHASIS
IC33 HD10104L
FREQ DOUBLER
RV41; DE-EMPHASIS
IC38 BX1244 IC36 TL082CP
AFC FOR DEMOD
IC113 SN7407N Q66 2SA1115
SIG VIDEO 19 3/3
G 20 3/3
CLAMP PULSE 21 3/3
OSC OFF 15 1/3

VO-16 BOARD **(2/3)**
BOARD NO. 1-621-101-13
BVH-3000PS ; #10501-
BVH-3100PS ; #10701-

VO-16 BOARD (3/3)

Video Modulator/Demodulator

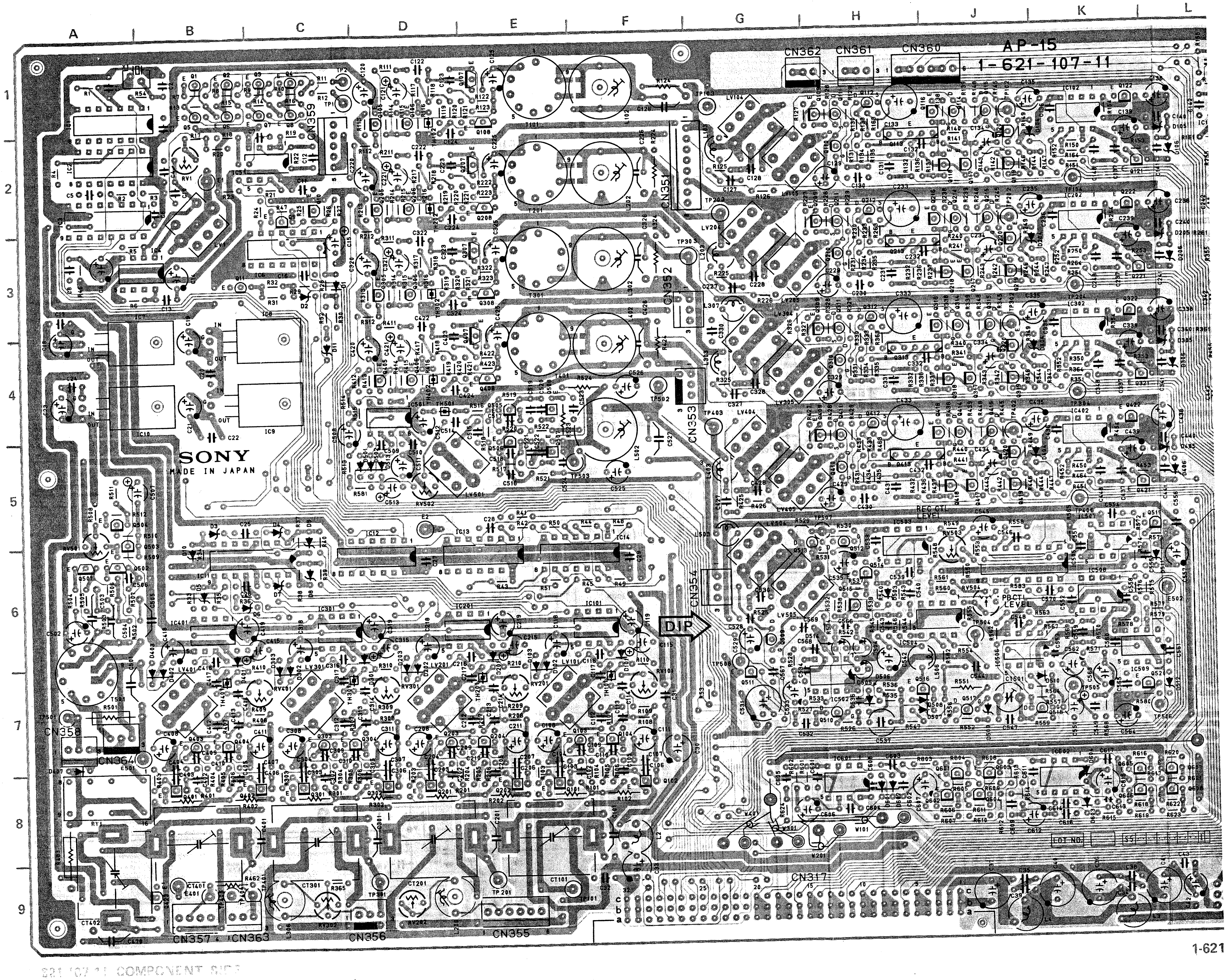

RV13 PB RF BALANCE
IC122 NJM78L05A
IC123 MC10131L
Q57 2SA1206
Q58 2SA1206
Q63 2SA1206
Q59 2SC2512
Q60 2SC2512
Q61 2SC2512
Q62 2SC2512
IC124 NJM79L05A
IC34 TL082CN
Q64 2SK152-2
IC39 BX-366AL VIDEO BUFFER
IC107 NJM78L05A +5V REG
IC35 CX20158 SWITCHING NOISE SUPPRESSOR
IC37 BX-365AL VIDEO AMP (6dB)
IC68 CX20158
IC67 TL082CP VIDEO BUFF (FOR SYNC SEP)
IC109 NJM78L05A +5V REG
IC69 TA7357AP SYNC SEP
IC70 SN74LS221N LEADING/TRAILING EDGE DET
RV15; REPLACEMENT DC LEVEL
IC85 SN74LS00N
IC71 SN74LS221N
IC72 SN74LS00N
SW EDGE PULSE GEN
IC108 NJM79L05A -5V REG
RV16; VIDEO GAIN
IC110 NJM79L05A -5V REG
IC111 SN74LS00N
IC73 SN74LS221N HALF H REJ
E11
BUFFER
RIPPLE FILTER
SYNC SEP
HD GEN
2/3 24 H
2/3 23 J
2/3 19 SIG VIDEO
SV,A10b CN303 A22c RF SW
2/3 17 RF SW
1/3 5 TAPE/EE
1/3 7 MARKER/EE
2/3 28 6dB DO
2/3 18 DROPOUT
2/3 21 CLAMP PULSE
1 25 2/3
RV17; CHROMA LEVEL
Q46 2SC2512 Q47 2SC2512 CHROMA SEP
IC77 MC1496P IC79 TL082CP CHROMA ENVELOPE DET
RV18; DC OFFSET
TP34
IC80 TL610CP BURST LEVEL DET
+12V
-12V
+5V
-5V

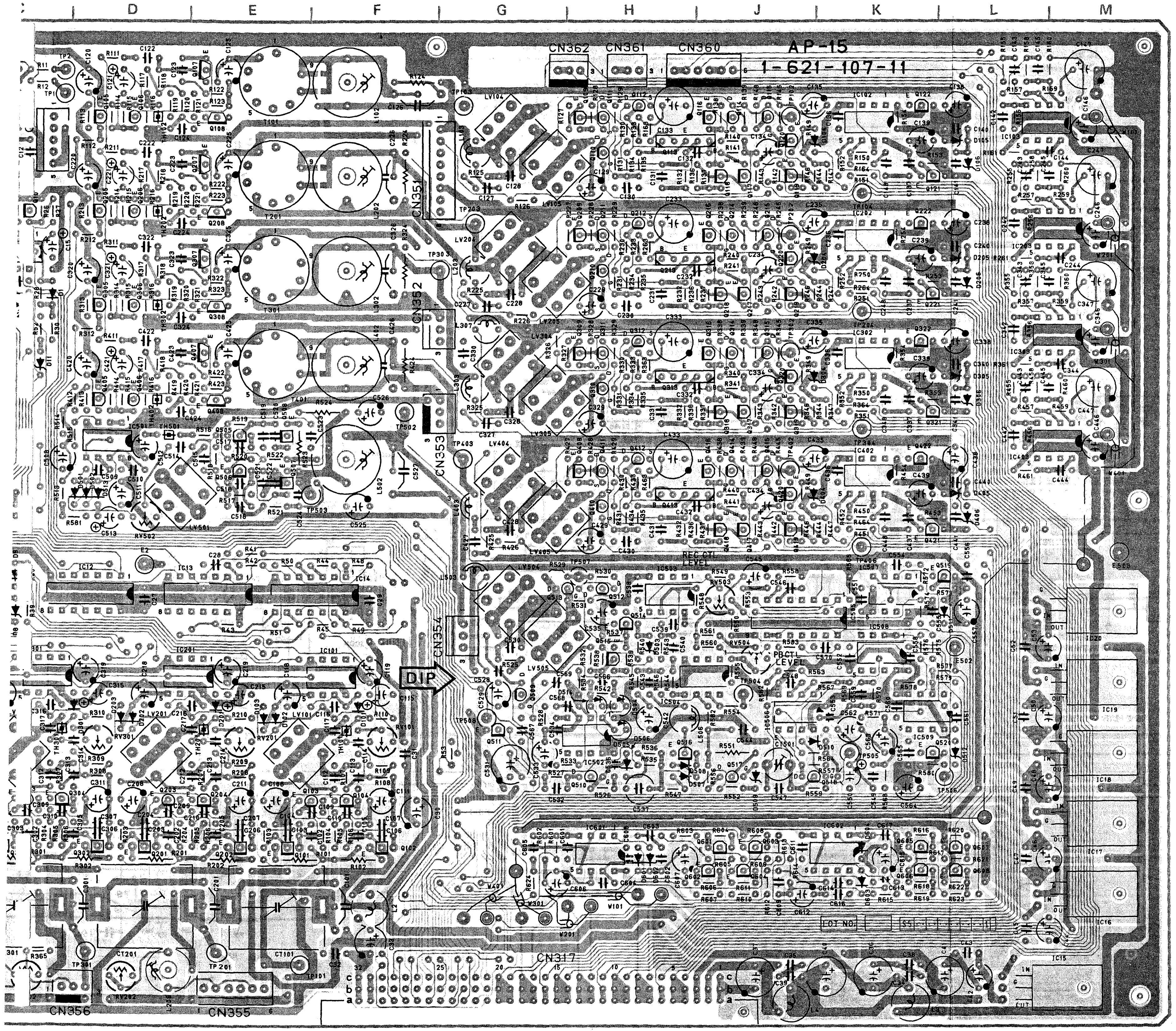

IC34 TL082CN
Q64 2SK152-2
IC37 BX-365AL VIDEO AMP (6dB)
IC68 CX20158
IC67 TL082CP VIDEO BUFF (FOR SYNC SEP)
IC109 NJM78L05A +5V REG
IC110 NJM79L05A -5V REG
IC69 TA7357AP SYNC SEP
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
X2
RV16; VIDEO GAIN
IC39 BX-366AL VIDEO BUFFER
Q36 2SC2512 VIDEO BUFFER (FOR TBC CHROMA)
FL2 7.5MHz LPF
TP30
TP31
TP32
TP33
TP34
TP35
E10
E11
IC40 BX-366AL
IC41 BX-366AL VIDEO BUFFER
IC76 SN75107AN VITC DET
IC76 SN75107AN SYNC SEP
IC105 SN74LS08N
IC75 TL607CP IC74 TL082CP SYNC/PEDESTAL SAMPLING/HOLD
IC121 TL082CP
IC67 TL082CP
IC70 SN74LS221N LEADING/TRAILING EDGE DET
IC111 SN74LS00N
IC78 SN74LS00N
IC73 SN74LS221N HALF H REJ
CN303
PB CHROMA (X) A25b CK, A10b
PB CHROMA (G) A25ac CK, A10ac
DEMOD 1 (X) A29b CK, A12b
DEMOD 1 (G) A29ac CK, A12ac
DEMOD 2 (X) A31b VS, 321-5b
DEMOD 2 (Y) A31ac VS, 321-5ac
VITC READ A23a SY, A14a
PB SYNC A23c CK/RD, A20a SY, A11a
PB SYNC 2 1/3
G 20 2/3
1 25 2/3
BVH-3000PS; UP TO # 10799
BVH-3100PS; UP TO # 11199
VITC READ A23a
Q46 2SC2512 Q47 2SC2512 CHROMA SEP
RV17; CHROMA LEVEL
RV18; DC OFFSET
IC77 MC1496P IC79 TL082CP CHROMA ENVELOPE DET
IC80 TL610CP IC79 TL082CP BURST LEVEL DET
IC82 SN75107AN BURST DET (COL/BW DET)
IC81 SN74LS123N
BURST LEVEL 16 2/3
PAL/SECAM 22 1/3
COLOR/BW 10 1/3

VO-16 (3/3) BOARD
BOARD NO.1-621-101-13
BVH-3000PS; #10501-
BVH-3100PS; #10701-

AP-15 BOARD (1-621-107-11)

Component Side


A
B
C
D
E
F
G
H
J
K
L
1
2
3
4
5
6
7
8
9
AP-15
1-621-107-11
CN362
CN361
CN360
CN351
CN352
CN353
CN354
CN355
CN356
CN357
CN358
CN359
CN363
CN364
CN317
SONY
MADE IN JAPAN
DIP
REC CTL LEVEL
PB CTL LEVEL
1-621
621 107 11 COMPONENT SIDE



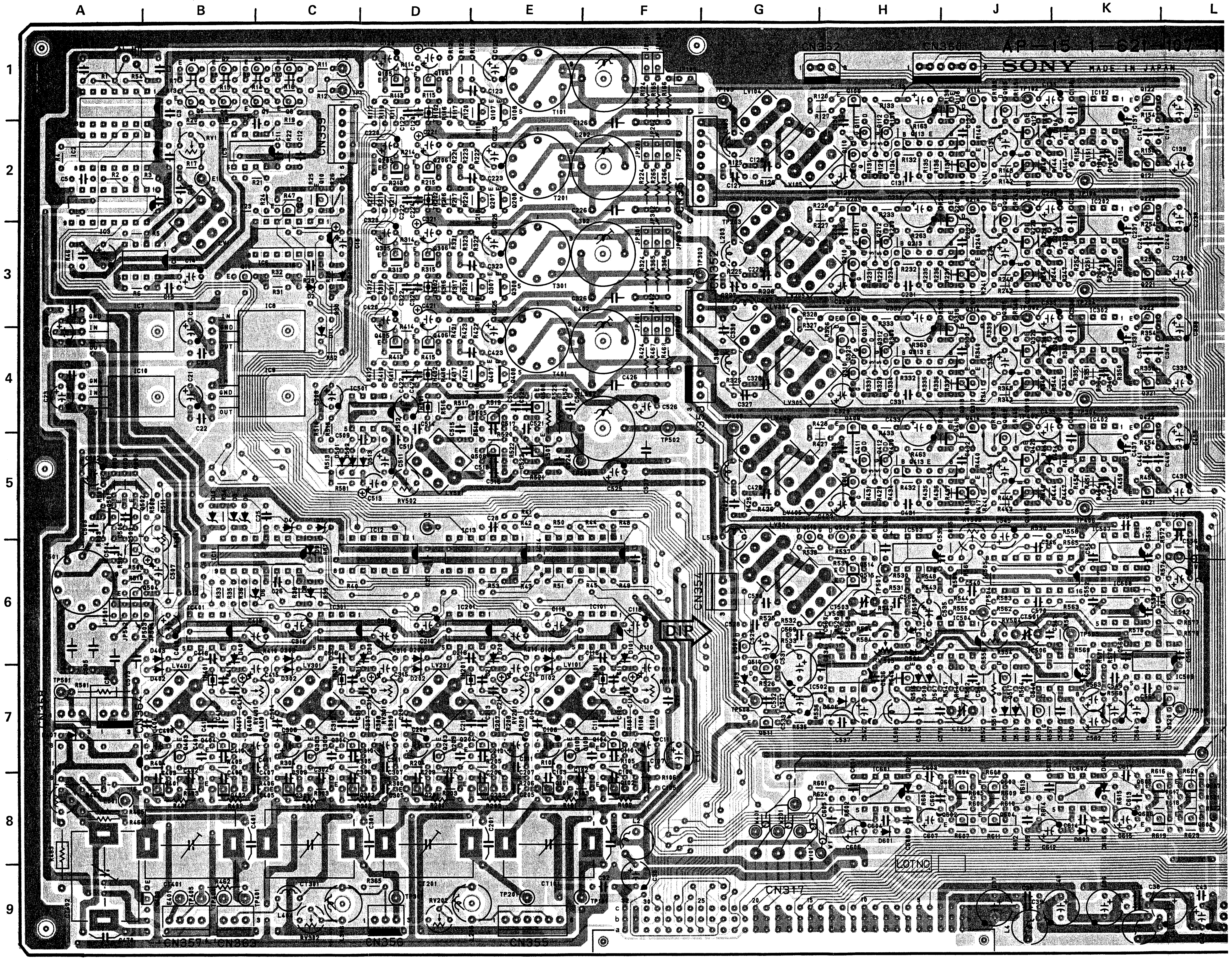
1-621-107-11 SOLDER SIDE

AP-15 (1-621-107-11)

BVH-3000/PS
BVH-3100/PS

CN317	G9
CN351	F2
CN352	F3
(PS-A4)	
CN353	F4
CN354	G6
CN355	E9
CN356	C9
(PS)	
CN357	B9
CN358	A7
CN359	C2
CN360	H1
(PS-A4)	
CN362	G1
CN363	B9
CN364	A7
CT101	E9
CT201	D9
CT301	C9
(PS-A4)	
CT401	B9
(PS)	
CT402	A9
CT501	J7
D1	C3
D2	C3
(PS)	
D3	B5
D4	C5
D5	B6
D6	B6
D7	C6
D8	C6
D9	C5
(PS)	
D10	B6
D11	C4
D101	F6
D102	E7
D103	E7
D104	J2
D201	E6
D202	D7
D203	D7
D204	J3
D301	D6
D302	C7
D303	C7
D304	J4
(PS)	
D401	B6
D402	B7
D403	B7
D404	J5
(PS-A4)	
D404	J5
(PS-A4)	
D407	A7
D501	D5
D502	D5
D503	H6
D504	H6
D505	H7
D506	H7
D507	H7
D508	H7
(PS)	
D509	J7
D510	J7
(PS)	
D512	L7
D513	D5
D514	H6
(PS-A4)	
D601	H8
D602	H8
D603	K8
D604	K8
E1	B2
E2	D5
(PS)	
E401	B9
E501	A7
E502	L6
E503	M5
IC1	A1
IC2	A2
IC3	A2
IC4	A3
IC5	C2
IC6	C3
IC7	A3
IC8	C3
IC9	C4
IC10	A4
IC11	B6
IC12	D6
IC13	E6
IC14	F6
IC15	M9
IC16	M8
IC17	M7
IC18	M7
IC19	M6
IC20	M6
IC101	F6
IC102	K1
IC103	L1
IC201	D6
IC203	M2
IC301	C6
IC302	K4
(PS)	
IC401	B6
(PS-A4)	
IC402	K5
IC403	M4
IC501	D4
IC502	H7
IC503	H6
IC504	H6
(PS)	
IC505	J6
IC506	J6
IC507	K6
IC508	K6
IC509	K6
IC601	H8
IC602	K8
L102	F1
L202	F2
L206	D9
L302	F3
(PS-A4)	
L306	C9
(PS-A4)	
L402	F4
L502	F4
LV1	B2
LV101	E7
LV104	G1
LV105	G2
LV201	D7
LV204	G2
LV205	G3
LV301	C7
LV304	G4
LV305	G4
(PS)	
LV401	B7
(PS-A4)	
LV404	G5
LV405	G5
LV501	D5
LV504	G6
LV505	G6
Q1	B1
Q2	B1
Q3	C1
Q4	C1
Q5	B1
Q6	B1
Q7	C1
Q8	C1
Q9	C2
Q10	C2
Q11	B3
Q101	E8
Q102	F8
Q103	E7
Q104	F7
Q105	D1
Q106	D1
Q107	E1
Q108	E1
Q109	H1
Q110	H2
Q111	H1
Q112	H1
Q113	H2
Q114	J1
Q115	J1
Q116	J1
Q117	J2
Q118	J2
Q119	J2
Q120	J2
Q121	K2
Q122	K1
Q201	D8
Q202	E8
Q203	D7
Q204	E7
Q205	D2
Q206	D2
Q207	E2
Q208	E2
Q209	H2
Q210	H3
Q211	H2
Q212	H2
Q213	H3
Q214	J2
Q215	J2
Q216	J2
Q217	J3
Q218	J3
Q219	J3
Q220	J3
Q221	K3
Q222	K2
Q301	C8
Q302	D8
Q303	C7
Q304	C7
Q305	D3
Q306	D3
Q307	E3
Q308	E3
Q309	H3
Q310	H4
Q311	H3
Q312	H3
Q313	H4
Q314	J3
Q315	J3
Q316	J3
Q317	J4
Q318	J4
Q319	J4
Q320	J4
Q321	K4
Q322	K3
(PS)	
Q401	B8
Q402	B8
Q403	B7
Q404	B7
(PS-A4)	
Q405	D4
Q406	D4
Q407	E3
Q408	E4
Q409	H4
Q410	H5
Q411	H4
Q412	H4
Q413	H5
Q414	J4
Q415	J4
Q416	J4
Q417	J5
Q418	J5
Q419	J5
Q420	J5
Q421	K5
Q422	K4
Q423	B9
Q501	A6
Q502	A6
Q503	A5
Q504	A5
Q505	E4
Q506	E4
Q507	E5
Q508	E4
Q509	G6
Q510	H7
Q511	G7
Q512	H6
Q513	G6
Q514	H6
Q515	H6
Q516	H7
(PS)	
Q517	J7
Q518	J7
Q519	K5
Q520	K7
Q601	J8
(PS-A4)	
Q602	J8
Q603	J8
(PS-A4)	
Q604	J8
Q605	K8
Q606	K8
Q607	L8
Q608	L8
RV1	B2
RV101	F7
RV201	E7
RV202	D9
RV301	D7
RV302	C9
(PS)	
RV401	B7
RV501	A5
RV502	D5
RV503	J6
RV504	J6
(PS-A4)	
RY1	A8
T101	E1
T201	E2
T301	E3
(PS-A4)	
T401	E4
T501	A6
TC202	K2
TH101	F7
TH102	D1
TH201	E7
TH202	D2
TH301	C7
TH302	D3
(PS)	
TH401	B7
(PS-A4)	
TH402	D4
TH501	D4
TP1	C1
TP2	C1
TP101	E9
TP102	J1
TP103	G1
TP104	K2
TP201	E9
TP202	J2
TP203	G2
TP204	K3
TP301	D9
TP302	J3
TP303	F3
TP304	K4
(PS-A4)	
TP401	B9
TP402	J4
(PS)	
TP403	G4
TP404	B9
TP405	B9
TP501	A7
TP502	F4
TP503	E5
TP504	J6
TP505	K7
TP506	L7
TP507	H5
TP508	G6
X1	A1

AP-15 BOARD (1-621-107-12)
Component Side


A
B
C
D
E
F
G
H
J
K
L
1
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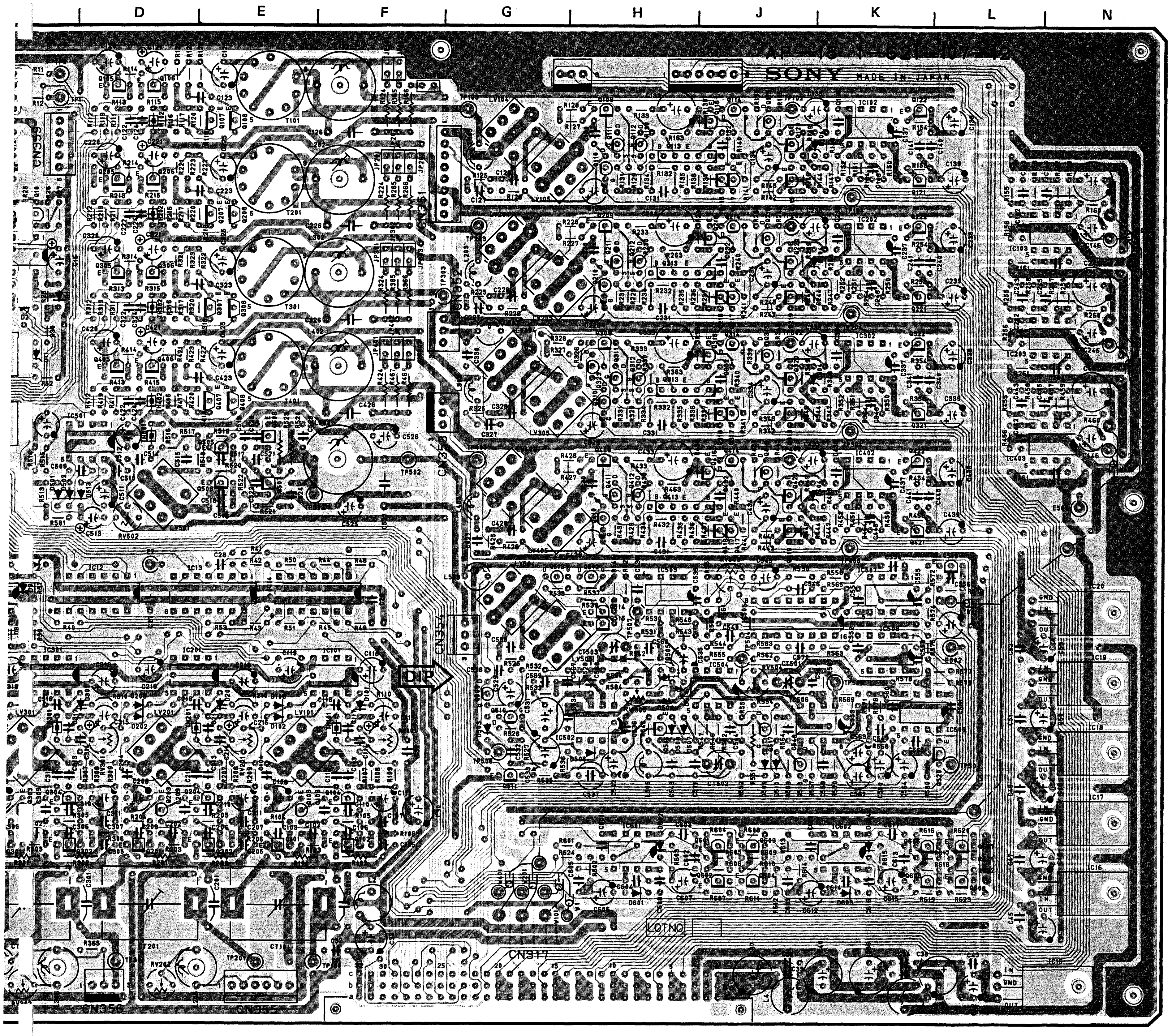
4
5
6
7
8
9
AP-15 1-621-107
SONY
MADE IN JAPAN
DIP
CN354
CN317
CN359
CN865
CN356
CN355
LOTNO

1-621-107-12 SOLDER SIDE

1-621-107-



1-621-107-12 COMPONENT SIDE

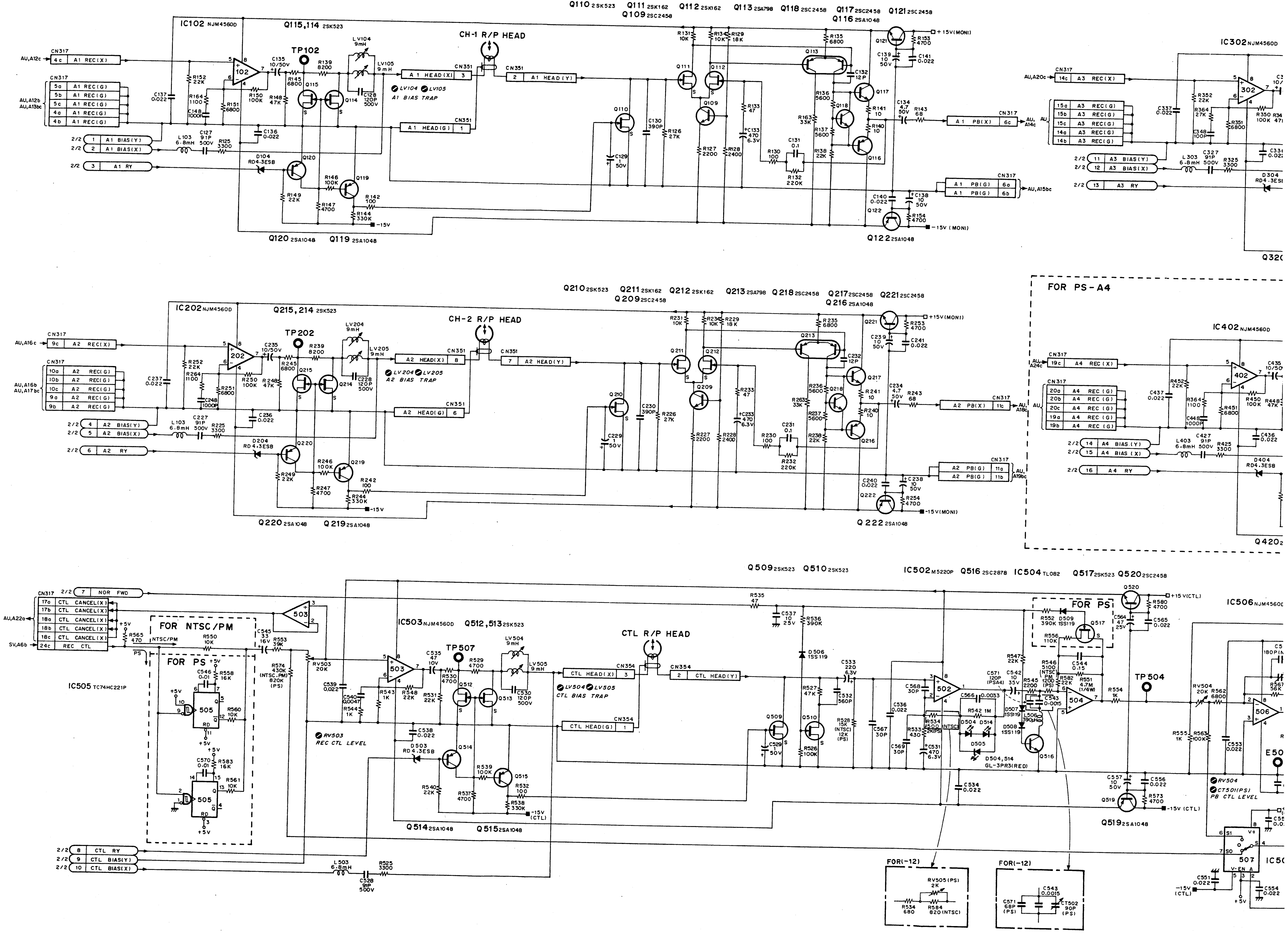
AP-15 (1-621-107-12)

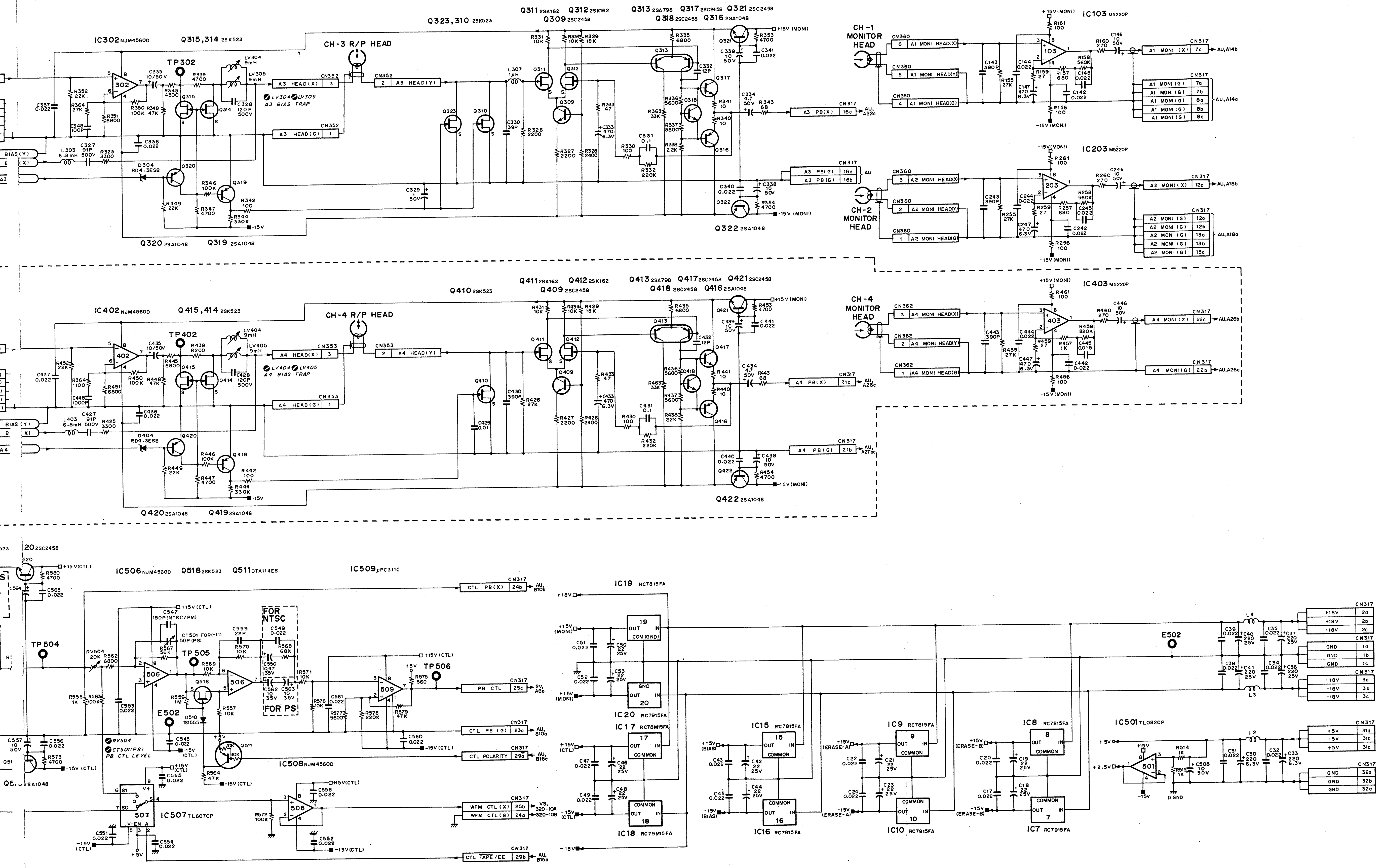
BVH-3000/PS
BVH-3100/PS

CN317	G9
CN351	F2
CN352	F3
(PS-A4)	
CN353	F4
CN354	G6
CN355	E9
CN356	C9
(PS)	
CN357	B9
CN358	A7
CN359	C2
CN360	H1
(PS-A4)	
CN362	G1
CN363	B9
CN364	A7
CT101	E9
CT201	D9
CT301	C9
(PS-A4)	
CT401	B9
(PS)	
CT402	A9
CT501	J7
CT502	H7
CT503	H6
D1	C3
D2	C3
(PS)	
D3	B5
D4	C5
D5	B5
D6	B6
D7	C6
D8	C6
D9	C6
(PS)	
D10	B5
D11	C4
D101	F6
D102	E7
D103	E7
D104	J2
D201	E6
D202	D7
D203	D7
D204	J3
D301	D6
D302	C7
D303	C7
D304	J4
(PS)	
D401	B6
D402	B7
D403	B7
D404	J5
(PS-A4)	
D404	J5
(PS-A4)	
D407	A7
D501	D5
D502	D5
D503	G7
D504	H6
D505	H6
D506	H7
D507	H7
D508	H7
(PS)	
D509	J7
D510	J7
D513	D5
D514	H6
(PS-A4)	
D601	H8
D602	H8
D603	K8
D604	K8
E1	B2
E2	D5
(PS)	
E401	B9
E501	A7
E502	L6
E503	M5
IC1	A1
IC2	A2
IC3	A2
IC4	A3
IC5	C2
IC6	C3
IC7	A3
IC8	C3
IC9	C4
IC10	A4
IC11	B6
IC12	D6
IC13	E6
IC14	F6
IC15	M9
IC16	M8
IC17	M7
IC18	M7
IC19	M6
IC20	M6
IC101	F6
IC102	K1
IC103	L1
IC201	D6
IC202	K2
IC203	M2
IC301	C6
IC302	K4
(PS)	
IC401	B6
(PS-A4)	
IC402	K5
IC403	M4
IC501	D4
IC502	H7
IC503	H6
IC504	H6
(PS)	
IC505	J6
IC506	J6
IC507	K6
IC508	K6
IC509	K6
IC601	H8
IC602	K8
L102	F1
L103	G2
L202	F2
L206	D9
L302	F3
L303	G4
(PS-A4)	
L306	C9
L307	G3
(PS-A4)	
L402	F4
L403	G5
L404	C9
L502	F4
L503	G5
L506	H7
LV1	B2
LV101	E7
LV104	G1
LV105	G2
LV201	D7
LV204	G2
LV205	G3
LV301	C7
LV304	G4
LV305	G4
(PS)	
LV401	B7
(PS-A4)	
LV404	G5
LV405	G5
LV501	D5
LV504	G6
LV505	G6
Q1	B1
Q2	B1
Q3	C1
Q4	C1
Q5	B1
Q6	B1
Q7	C1
Q8	C1
Q9	C2
Q10	C2
Q11	B3
Q101	E8
Q102	F8
Q103	E7
Q104	F7
Q105	D1
Q106	D1
Q107	E1
Q108	E1
Q109	H1
Q110	H2
Q111	H1
Q112	H1
Q113	H2
Q114	J1
Q115	J1
Q116	J1
Q117	J2
Q118	J2
Q119	J2
Q120	J2
Q121	K2
Q122	K1
Q201	D8
Q202	E8
Q203	D7
Q204	E7
Q205	D2
Q206	D2
Q207	E2
Q208	E2
Q209	H2
Q210	H3
Q211	H2
Q212	H2
Q213	H3
Q214	J2
Q215	J2
Q216	J2
Q217	J3
Q218	J3
Q219	J3
Q220	J3
Q221	K3
Q222	K2
Q301	C8
Q302	D8
Q303	C7
Q304	C7
Q305	D3
Q306	D3
Q307	E3
Q308	E3
Q309	H3
Q310	H4
Q311	H3
Q312	H3
Q313	H4
Q314	J3
Q315	J3
Q316	J3
Q317	J4
Q318	J4
Q319	J4
Q320	J4
Q321	K4
Q322	K3
Q323	H4
(PS)	
Q401	B8
Q402	B8
Q403	B7
Q404	B7
(PS-A4)	
Q405	D4
Q406	D4
Q407	E4
Q408	E4
Q409	H4
Q410	H5
Q411	H4
Q412	H4
Q413	H5
Q414	J4
Q415	J4
Q416	J4
Q417	J5
Q418	J5
Q419	J5
Q420	J5
Q421	K5
Q422	K4
Q423	B9
Q501	A6
Q502	A6
Q503	A5
Q504	A5
Q505	E4
Q506	E5
Q507	E5
Q508	E4
Q509	G6
Q510	G7
Q511	G7
Q512	H6
Q513	G6
Q514	H6
Q515	H6
Q516	H7
(PS)	
Q517	J7
Q518	J7
Q519	K5
Q520	K7
Q601	J8
(PS-A4)	
Q602	J8
Q603	J8
(PS-A4)	
Q604	J8
Q605	K8
Q606	K8
Q607	L8
Q608	L8
RV1	B2
RV101	F7
RV201	E7
RV202	D9
RV301	D7
RV302	C9
(PS)	
RV401	B7
RV402	A8
RV501	A5
RV502	D5
RV503	J6
RV504	J6
RV505	H6
(PS-A4)	
RY1	A8
T101	E1
T201	E2
T301	E3
(PS-A4)	
T401	E4
T501	A6
TH101	F7
TH102	D1
TH201	E7
TH202	D2
TH301	C7
TH302	D3
(PS)	
TH401	B7
(PS-A4)	
TH402	D4
TH501	D4
TP1	C1
TP2	C1
TP101	E9
TP102	J1
TP103	G1
TP104	K2
TP201	E9
TP202	J2
TP203	G2
TP204	K3
TP301	D9
TP302	J3
TP303	F3
TP304	K4
(PS-A4)	
TP401	B9
TP402	J4
(PS)	
TP403	G4
TP404	B9
TP405	B9
TP406	K5
TP501	A7
TP502	F4
TP503	E5
TP504	J6
TP505	K7
TP506	L7
TP507	H5
TP508	G6
X1	A1

AP-15 BOARD (1/2)

Audio Preamplifier, Bias, Erase


Q110 2SK523 Q111 2SK162 Q112 2SK162 Q113 2SA798 Q118 2SC2458 Q117 2SC2458 Q121 2SC2458
Q109 2SC2458
Q116 2SA1048
IC102 NJM4560D
Q115,114 2SK523
TP102
CH-1 R/P HEAD
LV104 LV105 A1 BIAS TRAP
A1 REC(X)
A1 REC(G)
A1 BIAS(Y)
A1 BIAS(X)
A1 RY
A1 HEAD(X)
A1 HEAD(Y)
A1 HEAD(G)
A1 PB(X)
A1 PB(Y)
A1 PB(G)
+15V(MONI)
-15V (MONI)
Q120 2SA1048 Q119 2SA1048
Q122 2SA1048
IC302 NJM4560D
A3 REC(X)
A3 REC(G)
A3 BIAS(Y)
A3 BIAS(X)
A3 RY
Q210 2SK523 Q211 2SK162 Q212 2SK162 Q213 2SA798 Q218 2SC2458 Q217 2SC2458 Q221 2SC2458
Q209 2SC2458
Q216 2SA1048
IC202 NJM4560D
Q215,214 2SK523
TP202
CH-2 R/P HEAD
LV204 LV205 A2 BIAS TRAP
A2 REC(X)
A2 REC(G)
A2 BIAS(Y)
A2 BIAS(X)
A2 RY
A2 HEAD(X)
A2 HEAD(Y)
A2 HEAD(G)
A2 PB(X)
A2 PB(G)
Q220 2SA1048 Q219 2SA1048
Q222 2SA1048
FOR PS-A4
IC402 NJM4560D
A4 REC(X)
A4 REC(G)
A4 BIAS(Y)
A4 BIAS(X)
A4 RY
Q420
Q509 2SK523 Q510 2SK523
IC502 M5220P Q516 2SC2878 IC504 TL082 Q517 2SK523 Q520 2SC2458
IC506 NJM4560D
NOR FWD
CTL CANCEL(X)
REC CTL
FOR NTSC/PM
FOR PS
IC505 TC74HC221P
IC503 NJM4560D Q512,513 2SK523
TP507
RV503 REC CTL LEVEL
CTL R/P HEAD
LV504 LV505 CTL BIAS TRAP
CTL HEAD(X)
CTL HEAD(Y)
CTL HEAD(G)
TP504
RV504 CT501(PS) PB CTL LEVEL
D504,514 GL-3PR3(RED)
+15V(CTL)
-15V (CTL)
Q514 2SA1048 Q515 2SA1048
Q519 2SA1048
CTL RY
CTL BIAS(Y)
CTL BIAS(X)
FOR(-12)
RV505(PS)
FOR(-12)
C543 0.0015
CT502 90P (PS)

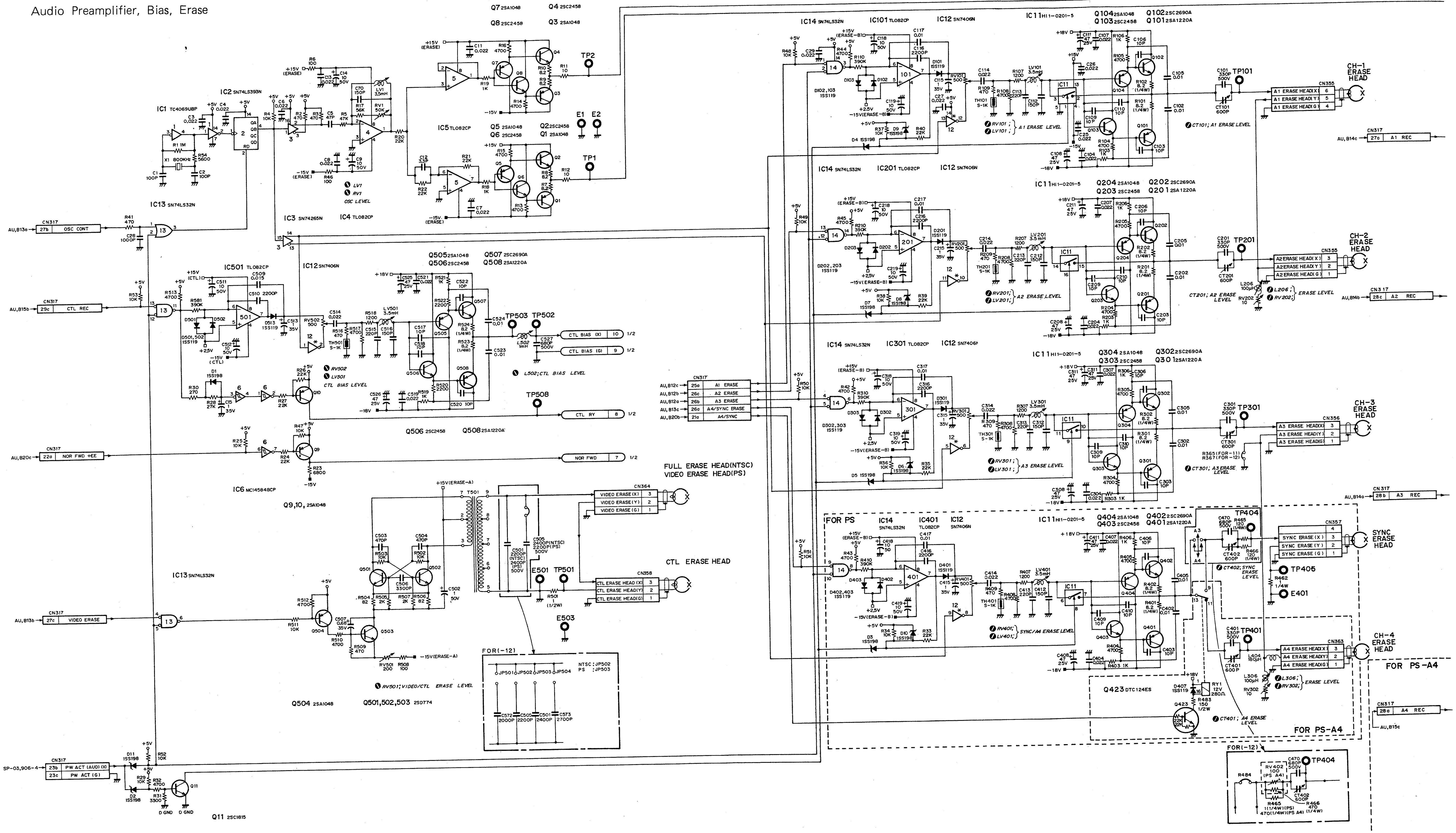

IC302 NJM4560D
Q315,314 2SK523
Q323,310 2SK523
Q311 2SK162
Q312 2SK162
Q309 2SC2458
Q313 2SA798
Q317 2SC2458
Q321 2SC2458
Q318 2SC2458
Q316 2SA1048
TP302
CH-3 R/P HEAD
A3 HEAD(X)
A3 HEAD(Y)
A3 HEAD(G)
CN352
LV304 9mH
LV305 9mH
LV304 LV305 A3 BIAS TRAP
A3 PB(X)
A3 PB(G)
CN317
+15V (MONI)
-15V (MONI)
Q320 2SA1048
Q319 2SA1048
Q322 2SA1048
D304 RD4.3ESB
CH-1 MONITOR HEAD
CH-2 MONITOR HEAD
CN360
A1 MONI HEAD(X)
A1 MONI HEAD(Y)
A1 MONI HEAD(G)
A2 MONI HEAD(X)
A2 MONI HEAD(Y)
A2 MONI HEAD(G)
IC103 M5220P
IC203 M5220P
A1 MONI (X)
A1 MONI (G)
A2 MONI (X)
A2 MONI (G)
AU,A14b
AU,A14a
AU,A18b
AU,A18a
AU,A22c
IC402 NJM4560D
Q415,414 2SK523
Q410 2SK523
Q411 2SK162
Q412 2SK162
Q409 2SC2458
Q413 2SA798
Q417 2SC2458
Q421 2SC2458
Q418 2SC2458
Q416 2SA1048
TP402
CH-4 R/P HEAD
A4 HEAD(X)
A4 HEAD(Y)
A4 HEAD(G)
CN353
LV404 9mH
LV405 9mH
LV404 LV405 A4 BIAS TRAP
A4 PB(X)
A4 PB(G)
AU,A26c
AU,A27b
Q420 2SA1048
Q419 2SA1048
Q422 2SA1048
D404 RD4.3ESB
CH-4 MONITOR HEAD
CN362
A4 MONI HEAD(X)
A4 MONI HEAD(Y)
A4 MONI HEAD(G)
IC403 M5220P
A4 MONI (X)
A4 MONI (G)
AU,A26b
AU,A26a
BIAS(Y)
IC506 NJM4560D
Q518 2SK523
Q511 DTA114ES
IC509 μPC311C
TP504
TP505
TP506
E502
FOR NTSC
FOR PS
CT501 FOR(-1)
RV504
CT501(PS) PB CTL LEVEL
CTL PB(X)
PB CTL
CTL PB (G)
CTL POLARITY
WFM CTL(X)
WFM CTL(G)
CTL TAPE/EE
IC508 NJM4560D
IC507 TL607CP
+15V (CTL)
-15V (CTL)
IC19 RC7815FA
IC20 RC7915FA
IC17 RC78M15FA
IC18 RC79M15FA
IC15 RC7815FA
IC16 RC7915FA
IC9 RC7815FA
IC10 RC7915FA
IC8 RC7815FA
IC7 RC7915FA
IC501 TL082CP
+18V
-18V
+15V (BIAS)
-15V (BIAS)
+15V (ERASE-A)
-15V (ERASE-A)
+15V (ERASE-B)
-15V (ERASE-B)
+5V
+2.5V
GND
D GND
L4
L3
L2

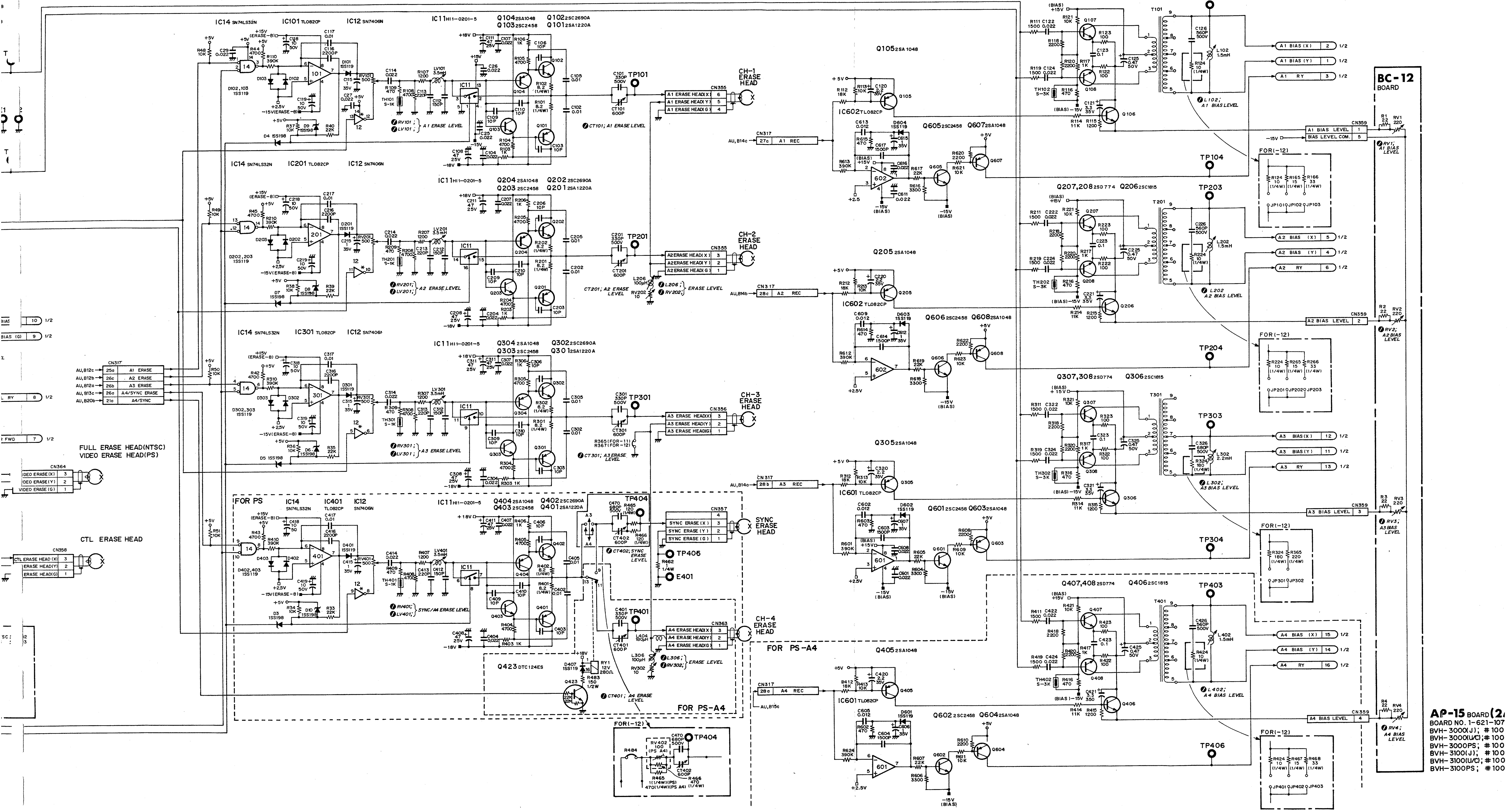
AP-15 BOARD (1/2)

BOARD NO.1-621-107-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

AP-15 BOARD (2/2)

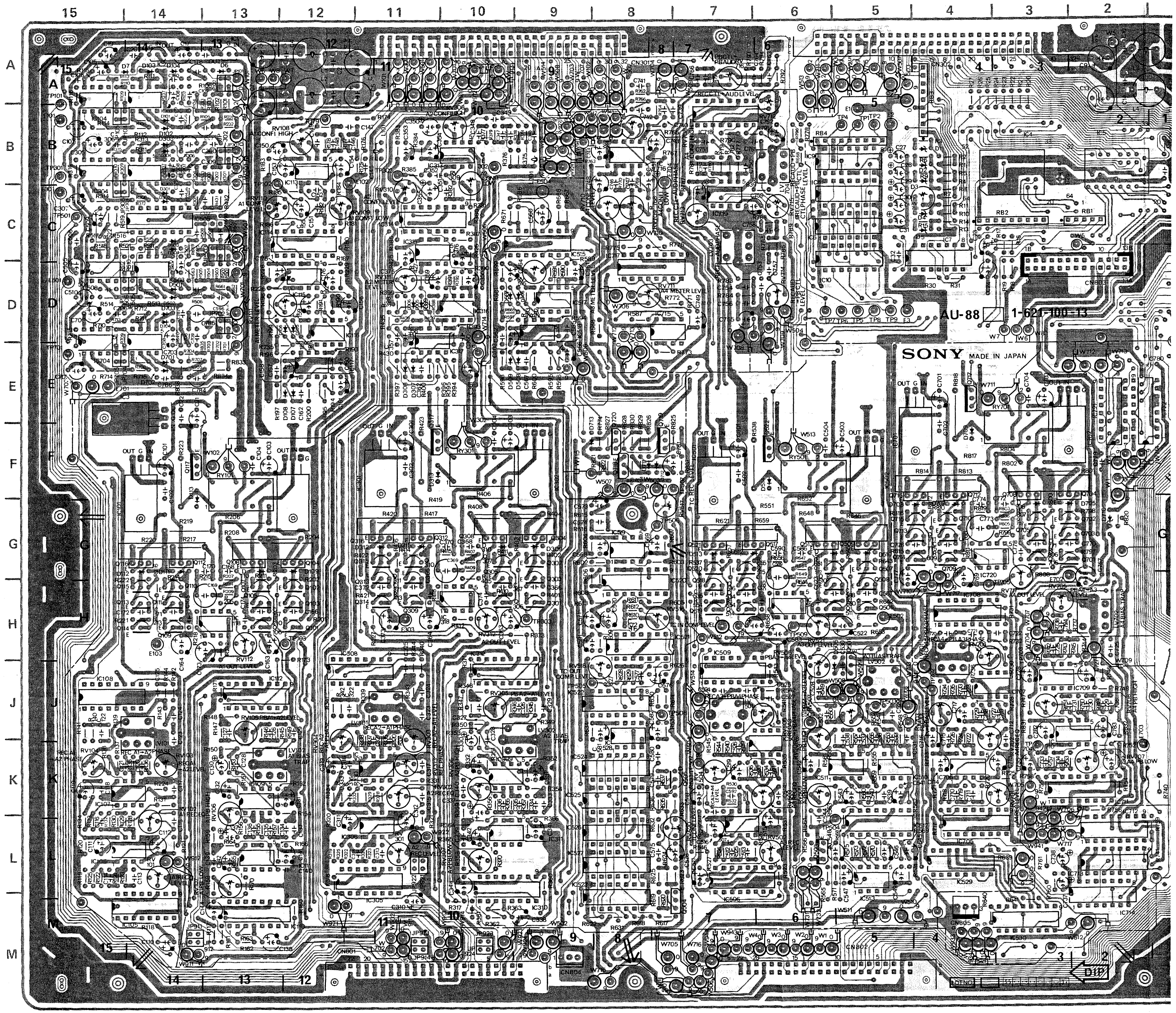
Audio Preamplifier, Bias, Erase


IC1 TC4069UBP
IC2 SN74LS393N
IC3 SN74265N
IC4 TL082CP
IC5 TL082CP
IC6 MC14584BCP
IC12 SN7406N
IC13 SN74LS32N
IC501 TL082CP
Q7 2SA1048
Q8 2SC2458
Q4 2SC2458
Q3 2SA1048
Q5 2SA1048
Q6 2SC2458
Q2 2SC2458
Q1 2SA1048
TP1
TP2
E1
E2
LV1 RV1 OSC LEVEL
OSC CONT
CTL REC
NOR FWD +EE
VIDEO ERASE
PW ACT (AUD) (X)
PW ACT (G)
Q505 2SA1048
Q506 2SC2458
Q507 2SC2690A
Q508 2SA1220A
TP503
TP502
TP508
CTL BIAS (X)
CTL BIAS (G)
CTL RY
NOR FWD
RV502 LV501 CTL BIAS LEVEL
L502; CTL BIAS LEVEL
Q9,10, 2SA1048
Q11 2SC1815
FULL ERASE HEAD(NTSC)
VIDEO ERASE HEAD(PS)
VIDEO ERASE(X)
VIDEO ERASE(Y)
VIDEO ERASE(G)
CTL ERASE HEAD
CTL ERASE HEAD(X)
CTL ERASE HEAD(Y)
CTL ERASE HEAD(G)
E501
TP501
E503
RV501; VIDEO/CTL ERASE LEVEL
Q504 2SA1048
Q501,502,503 2SD774
FOR(-12)
NTSC: JP502
PS: JP503
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
A4/SYNC
IC14 SN74LS32N
IC101 TL082CP
IC201 TL082CP
IC301 TL082CP
IC401 TL082CP
IC11 HI1-0201-5
Q104 2SA1048
Q103 2SC2458
Q102 2SC2690A
Q101 2SA1220A
Q204 2SA1048
Q203 2SC2458
Q202 2SC2690A
Q201 2SA1220A
Q304 2SA1048
Q303 2SC2458
Q302 2SC2690A
Q301 2SA1220A
Q404 2SA1048
Q403 2SC2458
Q402 2SC2690A
Q401 2SA1220A
TP101
TP201
TP301
TP401
TP404
TP406
E401
RV101; LV101; A1 ERASE LEVEL
RV201; LV201; A2 ERASE LEVEL
RV301; LV301; A3 ERASE LEVEL
RV401; LV401; SYNC/A4 ERASE LEVEL
CT101; A1 ERASE LEVEL
CT201; A2 ERASE LEVEL
CT301; A3 ERASE LEVEL
CT402; SYNC ERASE LEVEL
CT401; A4 ERASE LEVEL
L206; RV202; ERASE LEVEL
L306; RV302; ERASE LEVEL
CH-1 ERASE HEAD
CH-2 ERASE HEAD
CH-3 ERASE HEAD
CH-4 ERASE HEAD
SYNC ERASE HEAD
A1 ERASE HEAD(X)
A1 ERASE HEAD(Y)
A1 ERASE HEAD(G)
A2 ERASE HEAD(X)
A2 ERASE HEAD(Y)
A2 ERASE HEAD(G)
A3 ERASE HEAD(X)
A3 ERASE HEAD(Y)
A3 ERASE HEAD(G)
A4 ERASE HEAD(X)
A4 ERASE HEAD(Y)
A4 ERASE HEAD(G)
SYNC ERASE (X)
SYNC ERASE (Y)
SYNC ERASE (G)
A1 REC
A2 REC
A3 REC
A4 REC
FOR PS
FOR PS-A4
Q423 DTC124ES
R365(FOR-11)
R367(FOR-12)


IC14 SN74LS32N
IC101 TL082CP
IC12 SN7406N
IC11 H11-0201-5
Q104 2SA1048
Q102 2SC2690A
Q103 2SC2458
Q101 2SA1220A
TP101
CN355
CH-1 ERASE HEAD
A1 ERASE HEAD(X)
A1 ERASE HEAD(Y)
A1 ERASE HEAD(G)
RV101; LV101; A1 ERASE LEVEL
CT101; A1 ERASE LEVEL
IC201 TL082CP
Q204 2SA1048
Q202 2SC2690A
Q203 2SC2458
Q201 2SA1220A
TP201
CH-2 ERASE HEAD
A2 ERASE HEAD(X)
A2 ERASE HEAD(Y)
A2 ERASE HEAD(G)
RV201; LV201; A2 ERASE LEVEL
CT201; A2 ERASE LEVEL
L206; RV202; ERASE LEVEL
IC301 TL082CP
Q304 2SA1048
Q302 2SC2690A
Q303 2SC2458
Q301 2SA1220A
TP301
CN356
CH-3 ERASE HEAD
A3 ERASE HEAD(X)
A3 ERASE HEAD(Y)
A3 ERASE HEAD(G)
RV301; LV301; A3 ERASE LEVEL
CT301; A3 ERASE LEVEL
R365(FOR-11) R367(FOR-12)
CN317
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
A4/SYNC
FULL ERASE HEAD(NTSC)
VIDEO ERASE HEAD(PS)
CN364
VIDEO ERASE(X)
VIDEO ERASE(Y)
VIDEO ERASE(G)
CTL ERASE HEAD
CN358
CTL ERASE HEAD(X)
ERASE HEAD(Y)
ERASE HEAD(G)
FOR PS
IC401 TL082CP
Q404 2SA1048
Q402 2SC2690A
Q403 2SC2458
Q401 2SA1220A
TP404
CN357
SYNC ERASE(X)
SYNC ERASE(Y)
SYNC ERASE(G)
SYNC ERASE HEAD
CT402; SYNC ERASE LEVEL
TP406
E401
RV401; LV401; SYNC/A4 ERASE LEVEL
TP401
CN363
CH-4 ERASE HEAD
A4 ERASE HEAD(X)
A4 ERASE HEAD(Y)
A4 ERASE HEAD(G)
L306; RV302; ERASE LEVEL
Q423 DTC124ES
RY1 12V 280Ω
CT401; A4 ERASE LEVEL
FOR PS-A4
FOR(-12)
Q105 2SA1048
IC602 TL082CP
Q605 2SC2458
Q607 2SA1048
A1 REC
Q107,108 2SD774
Q106 2SC1815
T101
TP103
TP104
A1 BIAS(X)
A1 BIAS(Y)
A1 RY
L102; A1 BIAS LEVEL
CN359
A1 BIAS LEVEL
BIAS LEVEL COM.
Q205 2SA1048
Q606 2SC2458
Q608 2SA1048
A2 REC
Q207,208 2SD774
Q206 2SC1815
T201
TP203
TP204
A2 BIAS(X)
A2 BIAS(Y)
A2 RY
L202; A2 BIAS LEVEL
A2 BIAS LEVEL
Q305 2SA1048
IC601 TL082CP
Q601 2SC2458
Q603 2SA1048
A3 REC
Q307,308 2SD774
Q306 2SC1815
T301
TP303
TP304
A3 BIAS(X)
A3 BIAS(Y)
A3 RY
L302; A3 BIAS LEVEL
A3 BIAS LEVEL
Q405 2SA1048
Q602 2SC2458
Q604 2SA1048
A4 REC
FOR PS-A4
Q407,408 2SD774
Q406 2SC1815
T401
TP403
TP406
A4 BIAS(X)
A4 BIAS(Y)
A4 RY
L402; A4 BIAS LEVEL
A4 BIAS LEVEL
BC-12 BOARD
RV1; A1 BIAS LEVEL
RV2; A2 BIAS LEVEL
RV3; A3 BIAS LEVEL
RV4; A4 BIAS LEVEL
AP-15 BOARD(2/
BOARD NO. 1-621-107
BVH-3000(J); #100
BVH-3000(U/C); #100
BVH-3000PS; #100
BVH-3100(J); #100
BVH-3100(U/C); #100
BVH-3100PS; #100

AU-88 BOARD (1-621-100-13)

Component Side


15
14
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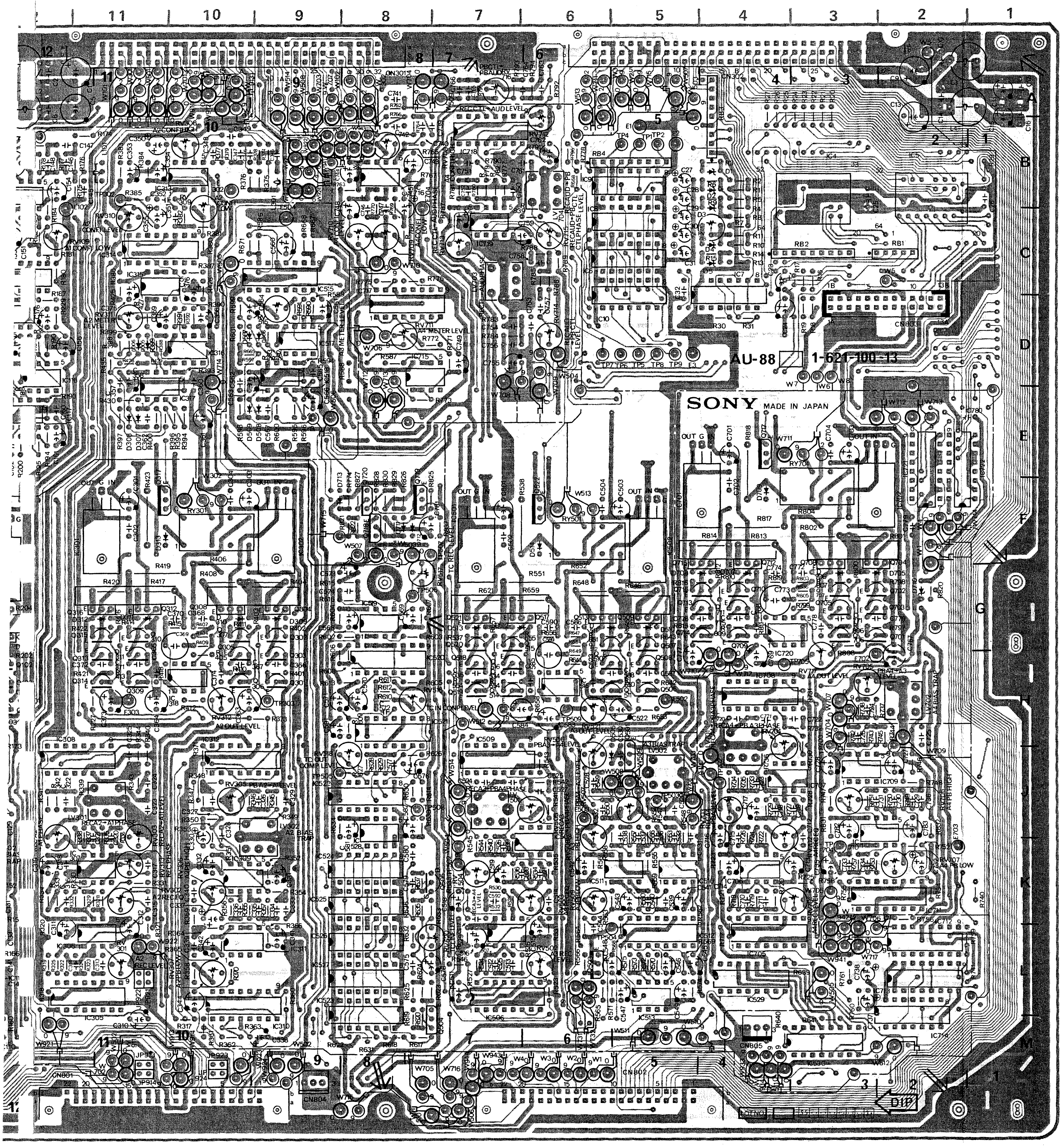
6
5
4
3
2
A
B
C
D
E
F
G
H
J
K
L
M
SONY MADE IN JAPAN
AU-88 1-621-100-13

1-621-100-13 SOLD



1-621-100-13 SOLDER SIDE

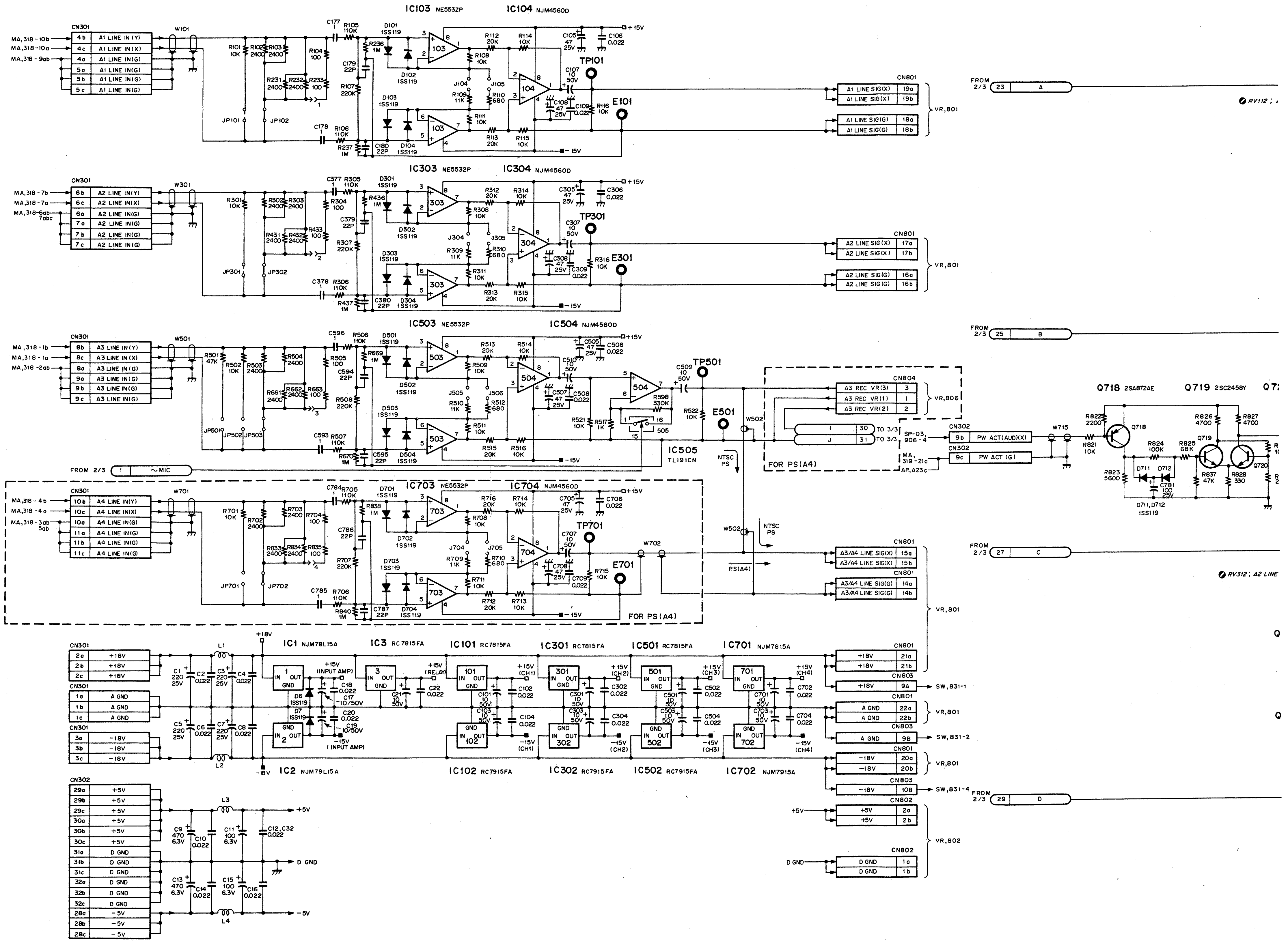
AU-88 (1-621-100-13)

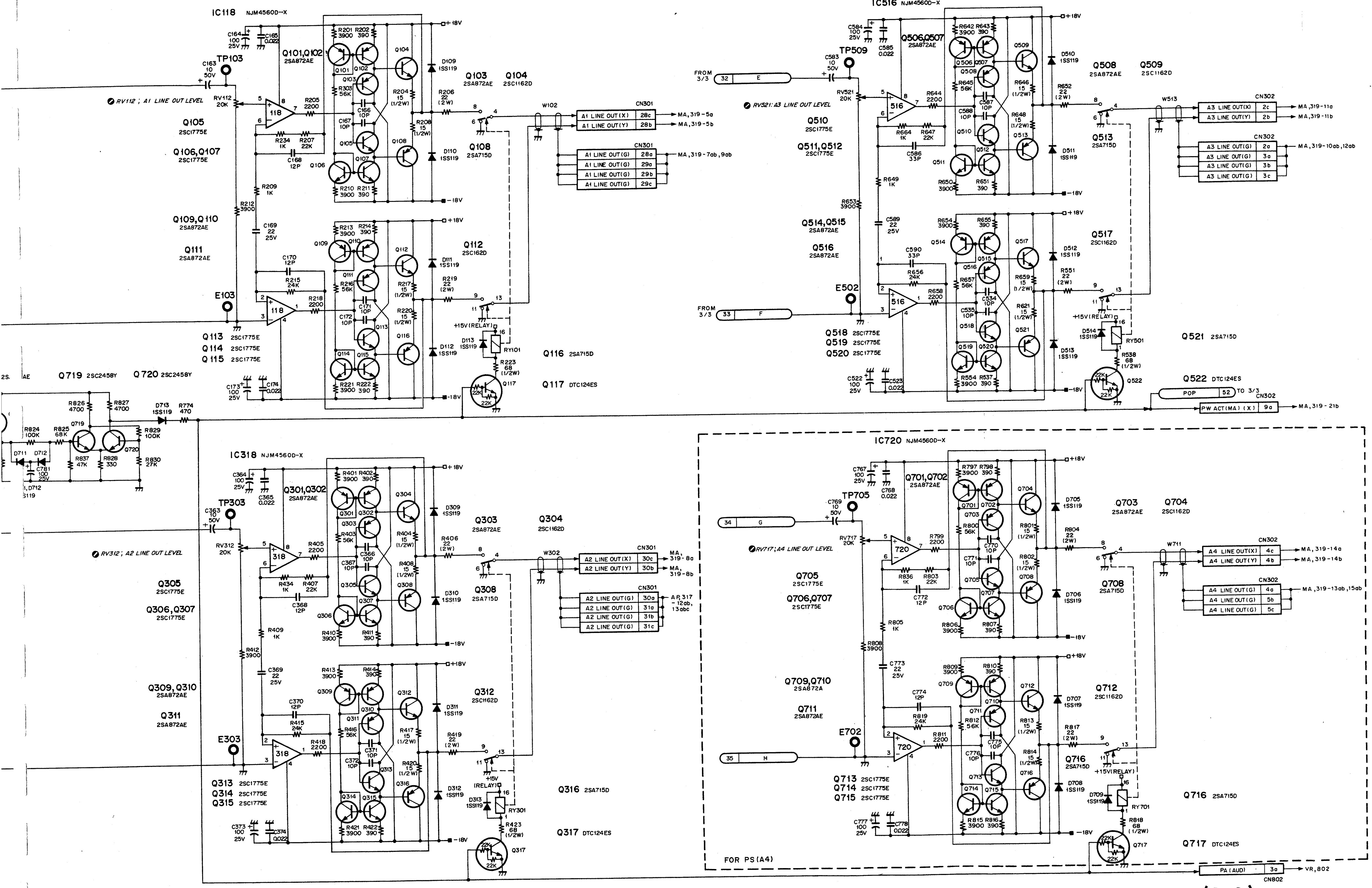
BVH-3000/PS
BVH-3100/PS

CN301	A8
CN302	A4
CN801	M12
CN802	M5
CN803	D2
(PS-A4)	
CN804	M9
CN805	M4
D1	B4
D2	B4
D3	C4
D4	C4
D5	C4
D6	A13
D7	A15
D101	B14
D102	B14
D103	A14
D104	A14
D105	D12
D106	D12
D107	E12
D108	E12
D109	G12
D110	G13
D111	G14
D112	G14
D113	F14
D301	C14
D302	C14
D303	B14
D304	B14
D305	D11
D306	D11
D307	E11
D308	E11
D309	G9
D310	G10
D311	G11
D312	G11
D313	F11
D501	D14
D502	D14
D503	C14
D504	C14
D505	J5
D506	D9
D507	D10
D508	E9
D509	E9
D510	G5
D511	G6
D512	G7
D513	G7
D514	F6
(PS-A4)	
D701	E14
D702	E14
D703	D14
D704	D14
D705	G3
D706	G3
D707	G4
D708	G4
D709	F4
D710	G2
D711	F8
D712	F8
D713	F8
E1	B5
E2	B5
E3	D5
E101	B15
E102	B12
E103	H14
E301	C15
E302	B10
E303	H11
E501	D15
E502	H5
E503	J6
E504	C9
(PS-A4)	
E701	E15
E702	H3
E703	K2
E704	B8
IC1	A13
IC2	A14
IC3	E15
IC4	B3
IC5	B2
IC6	C5
IC7	C4
IC8	C5
IC9	B5
IC10	C5
IC101	G14
IC102	G12
IC103	A14
IC104	A15
IC105	M14
IC106	L14
IC107	K14
IC108	J15
IC109	K13
IC110	M13
IC111	L13
IC112	J13
IC113	B12
IC114	C12
IC115	D12
IC116	D12
IC117	E12
IC118	H13
IC301	F11
IC302	F9
IC303	B14
IC304	B15
IC305	L12
IC306	L11
IC307	K11
IC308	J12
IC309	K10
IC310	L10
IC311	L10
IC312	J10
IC313	B10
IC314	C11
IC315	C11
IC316	D10
IC317	D11
IC318	H10
IC501	F7
IC502	F5
IC503	D14
IC504	D15
IC505	C14
IC506	L7
IC507	L7
IC508	K6
IC509	J7
IC510	K5
IC511	K5
IC512	L5
IC513	L5
IC515	C9
IC516	H6
IC517	D9
IC518	D9
IC519	G8
IC520	H8
IC521	H8
IC522	J8
IC523	L8
IC524	K8
IC525	K8
IC526	L8
IC527	L8
IC528	J8
IC529	L4
IC530	M3
(PS-A4)	
IC701	F4
IC702	F2
IC703	D3
IC703	D14
IC704	D15
IC705	L4
IC706	K4
IC707	J3
IC708	H4
IC709	J3
IC710	J2
IC711	K2
IC712	L2
IC713	L2
IC714	M2
IC715	D8
(PS-A4)	
IC716	B8
(PS)	
IC717	D8
IC718	B7
IC719	C7
(PS-A4)	
IC720	G4
IC721	E2
IC722	E2
JP101	A13
JP102	A13
JP104	B15
JP105	B15
JP301	B13
JP302	B13
JP304	C14
JP305	C15
JP501	C13
JP502	C13
JP503	C13
JP505	D14
JP506	D15
(PS-A4)	
JP701	D13
JP702	D13
JP704	E14
JP705	E15
JP911	M14
JP912	M14
JP913	M11
JP914	M11
JP921	L11
JP922	L11
JP923	M10
JP924	M10
LV101	J14
LV102	K13
LV301	J11
LV302	J9
LV501	J7
LV502	J5
(PS-A4)	
LV701	H4
LV702	H2
LV703	C7
(PS-A4)	
LV704	B6
Q101	H12
Q102	H12
Q103	H12
Q104	G12
Q105	H13
Q106	H13
Q107	H13
Q108	G13
Q109	H14
Q110	H14
Q111	H14
Q112	G14
Q113	H14
Q114	H14
Q115	H14
Q116	G14
Q117	F14
Q301	H9
Q302	G9
Q303	H9
Q304	G9
Q305	H10
Q306	H10
Q307	G10
Q308	G10
Q309	H11
Q310	G11
Q311	H11
Q312	G11
Q313	H11
Q314	H11
Q315	G11
Q316	G11
Q317	F11
Q501	J5
Q503	L6
Q504	M7
Q505	K7
Q506	H5
Q507	G5
Q508	H5
Q509	G5
Q510	H5
Q511	H5
Q512	G6
Q513	G6
Q514	H7
Q515	G7
Q516	H7
Q517	G6
Q518	H7
Q519	H7
Q520	G7
Q521	G7
Q522	F6
(PS-A4)	
Q701	G3
Q702	G3
Q703	G3
Q704	F3
Q705	G3
Q706	G3
Q707	G3
Q708	F3
Q709	G4
Q710	G4
Q711	G4
Q712	F3
Q713	G4
Q714	G4
Q715	G4
Q716	F4
Q717	E4
Q718	F8
Q719	F8
Q720	F8
RB1	C2
RB2	C3
RB3	A4
RB4	B5
RV101	L14
RV102	L14
RV103	K14
RV104	K15
RV105	J13
RV106	K13
RV107	L13
RV108	B12
RV109	C12
RV110	C13
RV111	D12
RV112	H13
RV301	L11
RV302	K11
RV303	K11
RV304	J12
RV305	J10
RV306	K10
RV307	L10
RV308	B10
RV309	B10
RV310	C11
RV311	D11
RV312	H10
RV313	K11
RV502	L6
RV503	K6
RV504	K7
RV505	J6
RV506	J6
RV507	J5
RV508	K6
RV509	K6
RV515	D9
RV516	H8
RV517	G8
RV518	J8
RV520	L7
RV521	H6
(PS-A4)	
RV701	K3
RV702	J4
RV703	J4
RV704	J4
RV705	H3
RV706	J3
RV707	K2
RV708	B8
RV709	C8
RV710	C8
RV711	D8
RV712	B6
RV713	C7
RV714	D6
(PS-A4)	
RV715	C6
RV716	A7
(PS-A4)	
RV717	H3
RV718	H3
RY101	F13
RY301	F10
RY501	F6
(PS-A4)	
RY701	F3
TP1	B5
TP2	B5
TP4	B5
TP5	D5
TP6	D5
TP7	D6
TP8	D5
TP9	D5
TP101	A15
TP102	B13
TP103	H12
TP301	B15
TP302	B11
TP303	H9
TP501	C15
TP502	K7
TP503	J5
TP504	L5
TP505	J9
TP506	G8
TP507	F7
TP508	J8
TP509	H6
(PS-A4)	
TP701	E15
TP702	J4
TP703	J3
TP704	K3
TP705	H4

AU-88 BOARD (1/3)

Audio REC/PB Amplifier

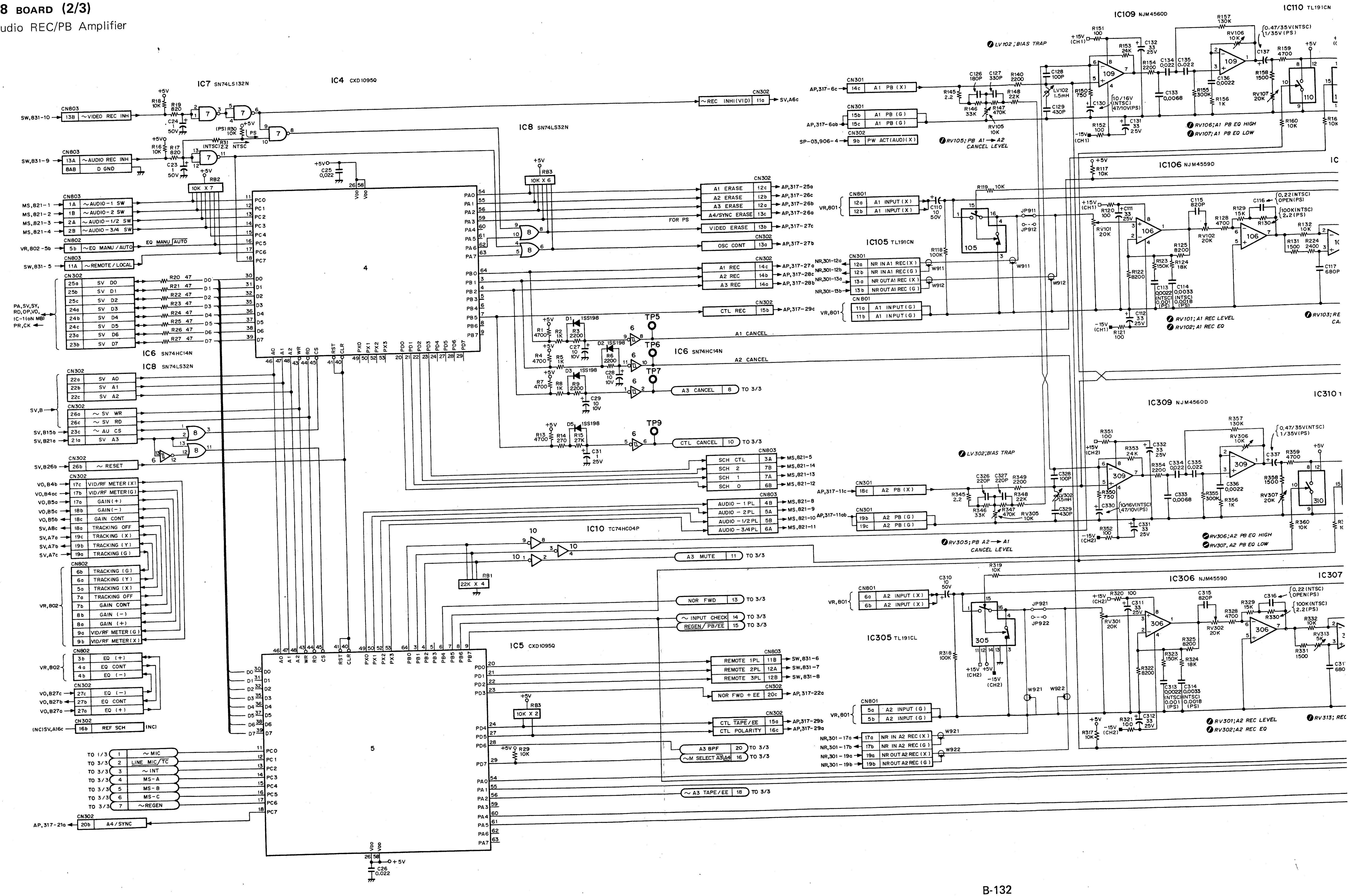

IC103 NE5532P
IC104 NJM4560D
IC303 NE5532P
IC304 NJM4560D
IC503 NE5532P
IC504 NJM4560D
IC505 TL191CN
IC703 NE5532P
IC704 NJM4560D
IC1 NJM78L15A
IC3 RC7815FA
IC101 RC7815FA
IC301 RC7815FA
IC501 RC7815FA
IC701 NJM7815A
IC2 NJM79L15A
IC102 RC7915FA
IC302 RC7915FA
IC502 RC7915FA
IC702 NJM7915A
CN301
CN302
CN801
CN802
CN803
CN804
TP101
TP301
TP501
TP701
E101
E301
E501
E701
Q718 2SA872AE
Q719 2SC2458Y
FOR PS(A4)
FROM 2/3
VR,801
VR,802
VR,806

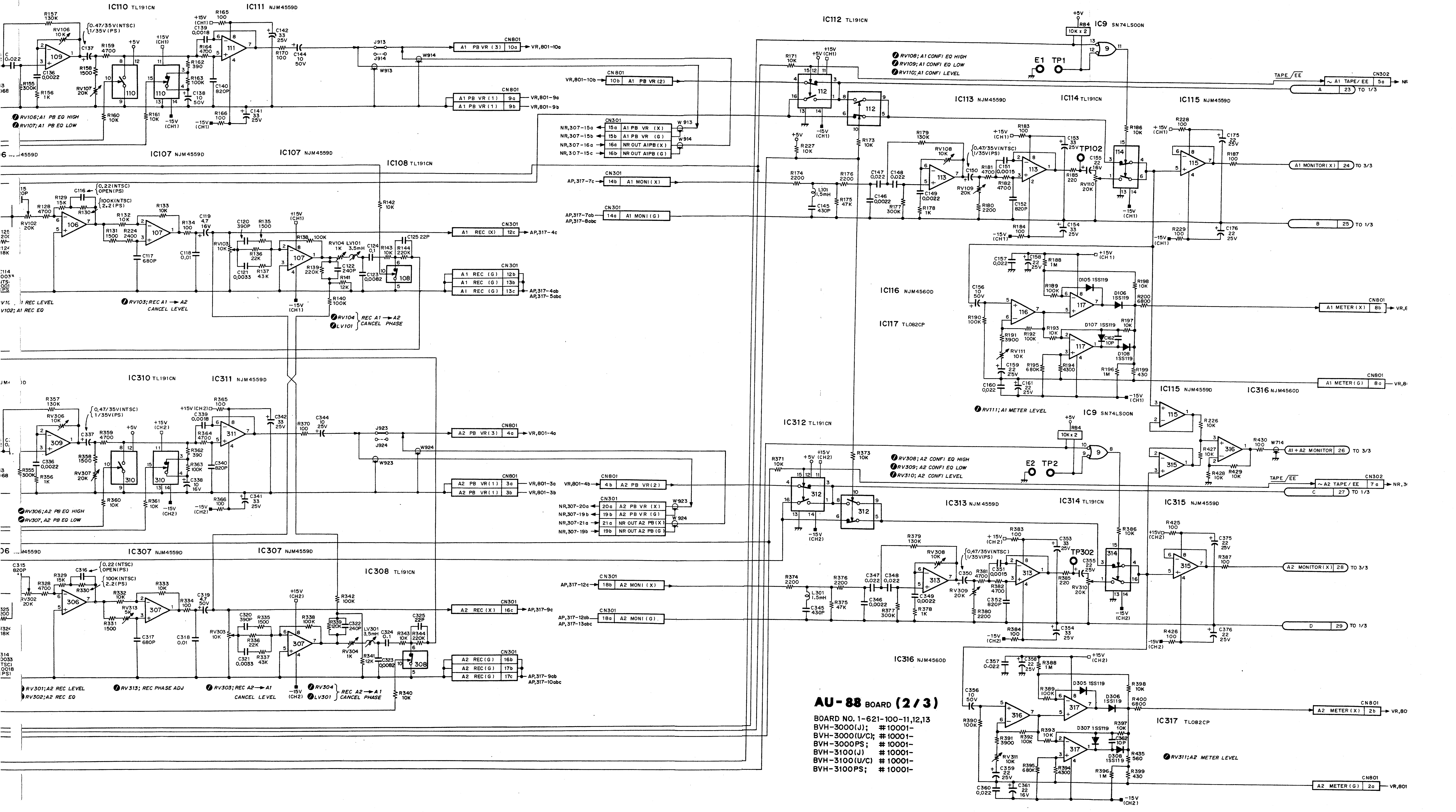

IC118 NJM4560D-X
Q101,Q102 2SA872AE
Q103 2SA872AE
Q104 2SC1162D
Q105 2SC1775E
Q106,Q107 2SC1775E
Q108 2SA715D
Q109,Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1162D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q116 2SA715D
Q117 DTC124ES
TP103
E103
RV112 ; A1 LINE OUT LEVEL
RY101
W102
A1 LINE OUT(X) 28c
A1 LINE OUT(Y) 28b
A1 LINE OUT(G) 28a
A1 LINE OUT(G) 29a
A1 LINE OUT(G) 29b
A1 LINE OUT(G) 29c
CN301
MA,319-5a
MA,319-5b
MA,319-7ab,9ab
+15V(RELAY)
+18V
-18V
Q719 2SC2458Y
Q720 2SC2458Y
D713 1SS119
IC318 NJM4560D-X
Q301,Q302 2SA872AE
Q303 2SA872AE
Q304 2SC1162D
Q305 2SC1775E
Q306,Q307 2SC1775E
Q308 2SA715D
Q309,Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1162D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
Q316 2SA715D
Q317 DTC124ES
TP303
E303
RV312 ; A2 LINE OUT LEVEL
RY301
W302
A2 LINE OUT(X) 30a
A2 LINE OUT(Y) 30b
A2 LINE OUT(G) 30c
A2 LINE OUT(G) 31a
A2 LINE OUT(G) 31b
A2 LINE OUT(G) 31c
MA, 319-8a
MA, 319-8b
AP,317 -12ab, 13abc
IC516 NJM4560D-X
FROM 3/3 32 E
FROM 3/3 33 F
Q506,Q507 2SA872AE
Q508 2SA872AE
Q509 2SC1162D
Q510 2SC1775E
Q511,Q512 2SC1775E
Q513 2SA715D
Q514,Q515 2SA872AE
Q516 2SA872AE
Q517 2SC1162D
Q518 2SC1775E
Q519 2SC1775E
Q520 2SC1775E
Q521 2SA715D
Q522 DTC124ES
TP509
E502
RV521: A3 LINE OUT LEVEL
RY501
W513
CN302
A3 LINE OUT(X) 2c
A3 LINE OUT(Y) 2b
A3 LINE OUT(G) 2a
A3 LINE OUT(G) 3a
A3 LINE OUT(G) 3b
A3 LINE OUT(G) 3c
MA,319-11a
MA,319-11b
MA,319-10ab,12ab
POP 52 TO 3/3
PW ACT(MA)(X) 9a
MA,319-21b
IC720 NJM4560D-X
34 G
35 H
Q701,Q702 2SA872AE
Q703 2SA872AE
Q704 2SC1162D
Q705 2SC1775E
Q706,Q707 2SC1775E
Q708 2SA715D
Q709,Q710 2SA872A
Q711 2SA872AE
Q712 2SC1162D
Q713 2SC1775E
Q714 2SC1775E
Q715 2SC1775E
Q716 2SA715D
Q717 DTC124ES
TP705
E702
RV717; A4 LINE OUT LEVEL
RY701
W711
A4 LINE OUT(X) 4c
A4 LINE OUT(Y) 4b
A4 LINE OUT(G) 4a
A4 LINE OUT(G) 5b
A4 LINE OUT(G) 5c
MA, 319-14a
MA, 319-14b
MA, 319-13ab, 15ab
FOR PS(A4)
PA (AUD) 3a
CN802
VR, 802

AU-88 BOARD **(1/3)**
BOARD NO. 1-621-100-11,12,13
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS ; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS ; #10001-

AU-88 BOARD (2/3)

Audio REC/PB Amplifier


IC7 SN74LS132N
IC4 CXD1095Q
IC8 SN74LS32N
IC6 SN74HC14N
IC8 SN74LS32N
IC10 TC74HC04P
IC5 CXD1095Q
IC105 TL191CN
IC305 TL191CL
IC109 NJM4560D
IC110 TL191CN
IC106 NJM4559D
IC309 NJM4560D
IC310
IC306 NJM4559D
IC307
TP5
TP6
TP7
TP9
CN803
CN802
CN302
CN301
CN801
A1 CANCEL
A2 CANCEL
A3 CANCEL
CTL CANCEL
A3 MUTE
NOR FWD
~ INPUT CHECK
REGEN / PB/EE
A3 BPF
~M SELECT A3 A4
~ A3 TAPE/EE
FOR PS
LV102 ; BIAS TRAP
LV302 ; BIAS TRAP
RV105 ; PB A1 → A2 CANCEL LEVEL
RV305 ; PB A2 → A1 CANCEL LEVEL
RV106 ; A1 PB EQ HIGH
RV107 ; A1 PB EQ LOW
RV306 ; A2 PB EQ HIGH
RV307 ; A2 PB EQ LOW
RV101 ; A1 REC LEVEL
RV102 ; A1 REC EQ
RV301 ; A2 REC LEVEL
RV302 ; A2 REC EQ
TO 3/3


IC110 TL191CN
IC111 NJM4559D
IC107 NJM4559D
IC108 TL191CN
IC112 TL191CN
IC9 SN74LS00N
IC113 NJM4559D
IC114 TL191CN
IC115 NJM4559D
IC116 NJM4560D
IC117 TL082CP
IC310 TL191CN
IC311 NJM4559D
IC307 NJM4559D
IC308 TL191CN
IC312 TL191CN
IC313 NJM4559D
IC314 TL191CN
IC315 NJM4559D
IC316 NJM4560D
IC317 TL082CP
E1 TP1
E2 TP2
TP102
TP302
RV106; A1 PB EQ HIGH
RV107; A1 PB EQ LOW
RV103; REC A1 → A2 CANCEL LEVEL
RV104 } REC A1 → A2
LV101 } CANCEL PHASE
RV108; A1 CONFI EQ HIGH
RV109; A1 CONFI EQ LOW
RV110; A1 CONFI LEVEL
RV111; A1 METER LEVEL
RV306; A2 PB EQ HIGH
RV307; A2 PB EQ LOW
RV301; A2 REC LEVEL
RV302; A2 REC EQ
RV313; REC PHASE ADJ
RV303; REC A2 → A1 CANCEL LEVEL
RV304 } REC A2 → A1
LV301 } CANCEL PHASE
RV308; A2 CONFI EQ HIGH
RV309; A2 CONFI EQ LOW
RV310; A2 CONFI LEVEL
RV311; A2 METER LEVEL
A1 PB VR (3)
A1 PB VR (2)
A1 PB VR (1)
A1 REC (X)
A1 REC (G)
A1 MONI (X)
A1 MONI (G)
A1 MONITOR (X) 24 TO 3/3
~ A1 TAPE/EE 5a
A 23 TO 1/3
B 25 TO 1/3
A1 METER (X) 8b
A1 METER (G) 8a
A2 PB VR (3)
A2 PB VR (2)
A2 PB VR (1)
A2 REC (X)
A2 REC (G)
A2 MONI (X)
A2 MONI (G)
A1+A2 MONITOR 26 TO 3/3
~ A2 TAPE/EE 7a
C 27 TO 1/3
A2 MONITOR (X) 28 TO 3/3
D 29 TO 1/3
A2 METER (X) 2b
A2 METER (G) 2a
CN801
CN301
CN302
TAPE/EE

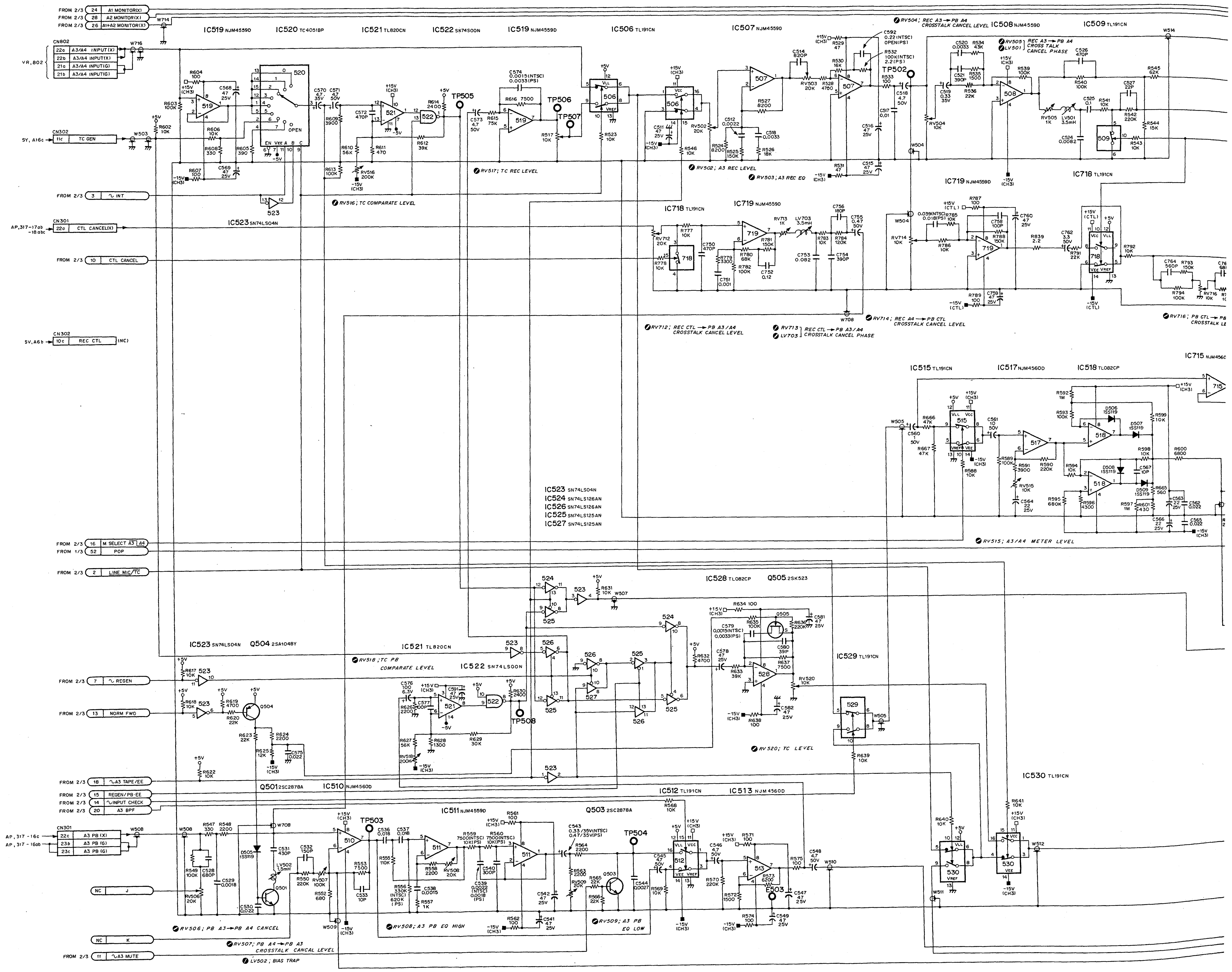
AU-88 BOARD **(2/3)**

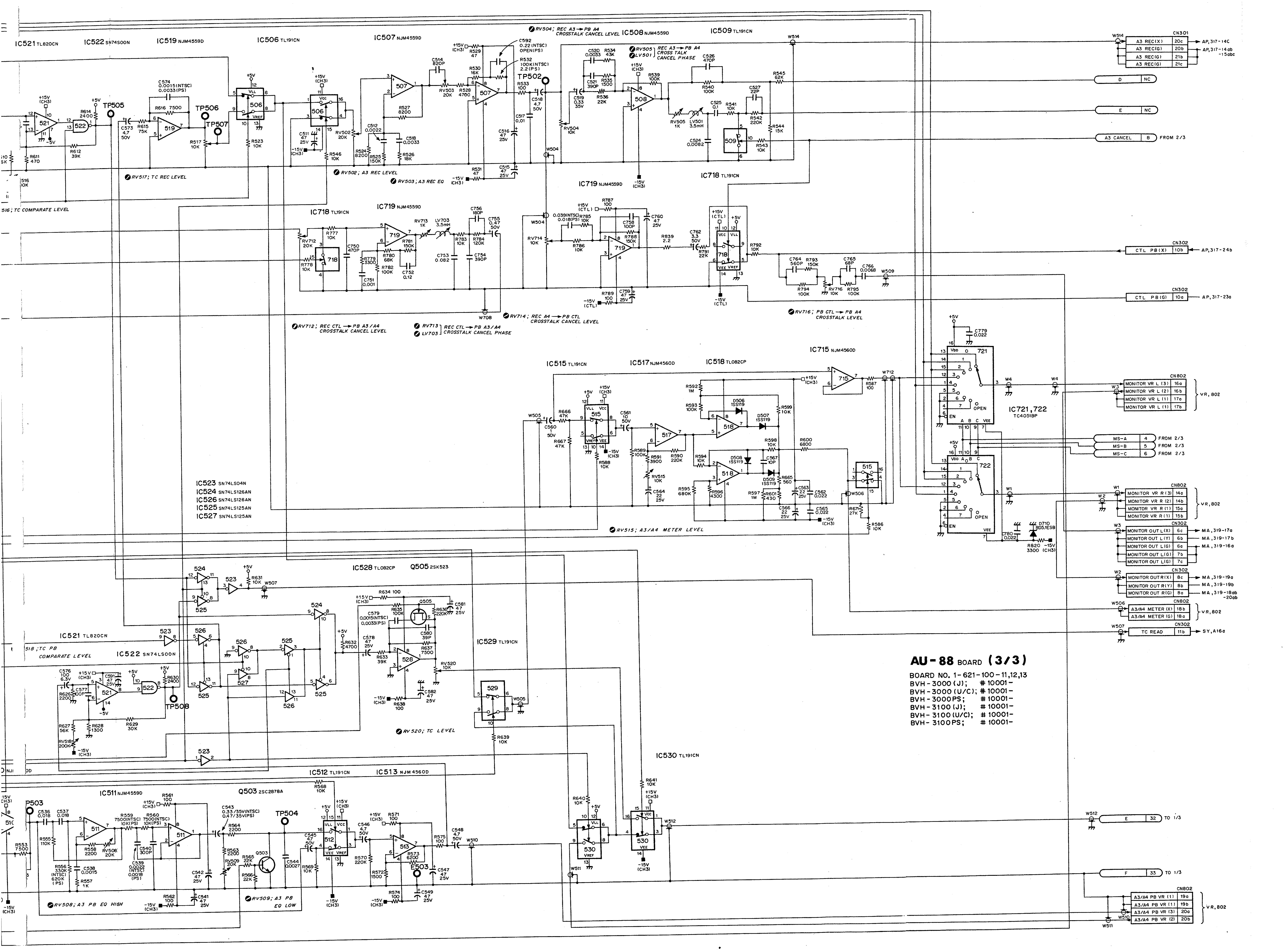
BOARD NO. 1-621-100-11,12,13

BVH-3000(J);	#10001-
BVH-3000(U/C);	#10001-
BVH-3000PS;	#10001-
BVH-3100(J)	#10001-
BVH-3100(U/C)	#10001-
BVH-3100PS;	#10001-

AU-88 BOARD (3/3)

Audio REC/PB Amplifier


IC519 NJM4559D
IC520 TC4051BP
IC521 TL820CN
IC522 SN74S00N
IC519 NJM4559D
IC506 TL191CN
IC507 NJM4559D
IC508 NJM4559D
IC509 TL191CN
IC718 TL191CN
IC719 NJM4559D
IC523 SN74LS04N
IC515 TL191CN
IC517 NJM4560D
IC518 TL082CP
IC715 NJM4560
IC523 SN74LS04N
IC524 SN74LS126AN
IC526 SN74LS126AN
IC525 SN74LS125AN
IC527 SN74LS125AN
IC528 TL082CP
Q505 2SK523
IC529 TL191CN
IC523 SN74LS04N
Q504 2SA1048Y
IC521 TL820CN
IC522 SN74LS00N
IC530 TL191CN
Q501 2SC2878A
IC510 NJM4560D
IC511 NJM4559D
Q503 2SC2878A
IC512 TL191CN
IC513 NJM4560D
TP502
TP503
TP504
TP505
TP506
TP507
TP508
FROM 2/3 24 A1 MONITOR(X)
FROM 2/3 28 A2 MONITOR(X)
FROM 2/3 26 A1+A2 MONITOR(X)
CN802
22a A3/A4 INPUT(X)
22b A3/A4 INPUT(X)
21a A3/A4 INPUT(G)
21b A3/A4 INPUT(G)
VR, 802
CN302
5Y, A16c 11c TC GEN
FROM 2/3 3 ∿ INT
CN301
AP, 317-17ab -18abc 22a CTL CANCEL(X)
FROM 2/3 10 CTL CANCEL
CN302
5V, A6b 10c REC CTL (NC)
FROM 2/3 16 M SELECT A3/A4
FROM 1/3 52 POP
FROM 2/3 2 LINE MIC/TC
FROM 2/3 7 ∿ REGEN
FROM 2/3 13 NORM FWD
FROM 2/3 18 ∿A3 TAPE/EE
FROM 2/3 15 REGEN/PB-EE
FROM 2/3 14 ∿INPUT CHECK
FROM 2/3 20 A3 BPF
CN301
AP, 317-16c 22c A3 PB (X)
23b A3 PB (G)
AP, 317-16ab 23c A3 PB (G)
NC J
NC K
FROM 2/3 11 ∿A3 MUTE
RV504; REC A3→PB A4 CROSSTALK CANCEL LEVEL
RV505; REC A3→PB A4
LV501; CROSS TALK CANCEL PHASE
RV516; TC COMPARATE LEVEL
RV517; TC REC LEVEL
RV502; A3 REC LEVEL
RV503; A3 REC EQ
RV712; REC CTL→PB A3/A4 CROSSTALK CANCEL LEVEL
RV713; REC CTL→PB A3/A4
LV703; CROSSTALK CANCEL PHASE
RV714; REC A4→PB CTL CROSSTALK CANCEL LEVEL
RV716; PB CTL→PB CROSSTALK LE
RV515; A3/A4 METER LEVEL
RV518; TC PB COMPARATE LEVEL
RV520; TC LEVEL
RV506; PB A3→PB A4 CANCEL
RV507; PB A4→PB A3 CROSSTALK CANCAL LEVEL
LV502; BIAS TRAP
RV508; A3 PB EQ HIGH
RV509; A3 PB EQ LOW

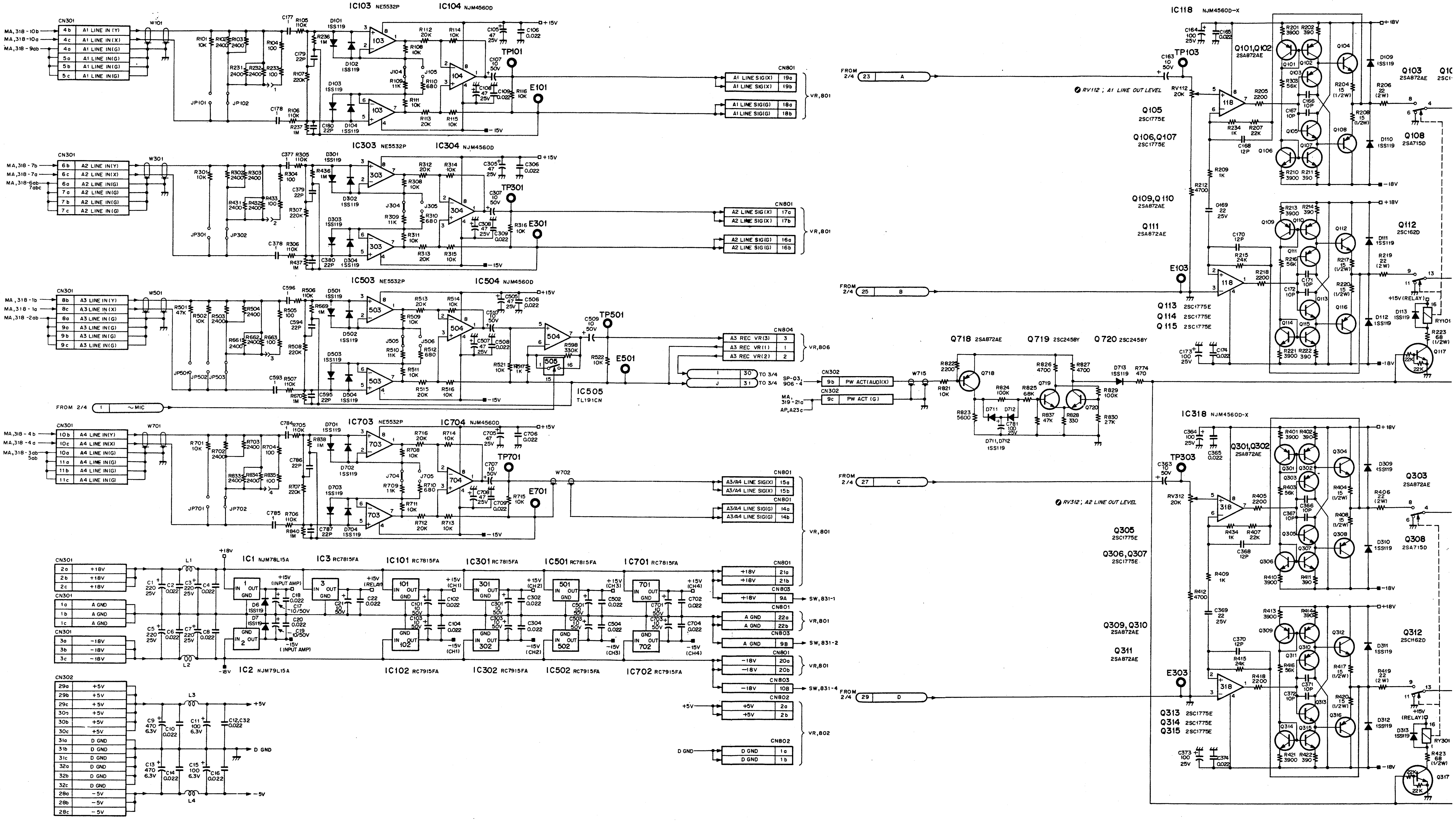

IC521 TL820CN
IC522 SN74S00N
IC519 NJM4559D
IC506 TL191CN
IC507 NJM4559D
IC508 NJM4559D
IC509 TL191CN
IC718 TL191CN
IC719 NJM4559D
IC715 NJM4560D
IC515 TL191CN
IC517 NJM4560D
IC518 TL082CP
IC721,722 TC4051BP
IC523 SN74LS04N
IC524 SN74LS126AN
IC526 SN74LS125AN
IC525 SN74LS125AN
IC527 SN74LS125AN
IC528 TL082CP
Q505 2SK523
IC529 TL191CN
IC530 TL191CN
IC511 NJM4559D
IC512 TL191CN
IC513 NJM4560D
Q503 2SC2878A
TP502
TP504
TP505
TP506
TP507
TP508
RV517; TC REC LEVEL
RV502; A3 REC LEVEL
RV503; A3 REC EQ
RV504; REC A3 → PB A4 CROSSTALK CANCEL LEVEL
RV505; LV501; REC A3 → PB A4 CROSS TALK CANCEL PHASE
RV712; REC CTL → PB A3/A4 CROSSTALK CANCEL LEVEL
RV713; LV703; REC CTL → PB A3/A4 CROSSTALK CANCEL PHASE
RV714; REC A4 → PB CTL CROSSTALK CANCEL LEVEL
RV716; PB CTL → PB A4 CROSSTALK LEVEL
RV515; A3/A4 METER LEVEL
RV520; TC LEVEL
RV508; A3 PB EQ HIGH
RV509; A3 PB EQ LOW
516; TC COMPARATE LEVEL
518; TC PB COMPARATE LEVEL
CN301
A3 REC(X) 20a
A3 REC(X) 20b
A3 REC(G) 21b
A3 REC(G) 21c
AP,317-14c
AP,317-14ab -15abc
D NC
E NC
A3 CANCEL 8 FROM 2/3
CN302
CTL PB(X) 10b AP,317-24b
CTL PB(G) 10a AP,317-23a
CN802
MONITOR VR L (3) 16a
MONITOR VR L (2) 16b
MONITOR VR L (1) 17a
MONITOR VR L (1) 17b
VR,802
MS-A 4 FROM 2/3
MS-B 5 FROM 2/3
MS-C 6 FROM 2/3
MONITOR VR R (3) 14a
MONITOR VR R (2) 14b
MONITOR VR R (1) 15a
MONITOR VR R (1) 15b
MONITOR OUT L(X) 6c MA,319-17a
MONITOR OUT L(Y) 6b MA,319-17b
MONITOR OUT L(G) 6a MA,319-16a
MONITOR OUT L(G) 7b
MONITOR OUT L(G) 7c
MONITOR OUT R(X) 8c MA,319-19a
MONITOR OUT R(Y) 8b MA,319-19b
MONITOR OUT R(G) 8a MA,319-18ab -20ab
A3/A4 METER (X) 18b
A3/A4 METER (G) 18a
TC READ 11b SY,A16a
E 32 TO 1/3
F 33 TO 1/3
A3/A4 PB VR (1) 19a
A3/A4 PB VR (1) 19b
A3/A4 PB VR (3) 20a
A3/A4 PB VR (2) 20b

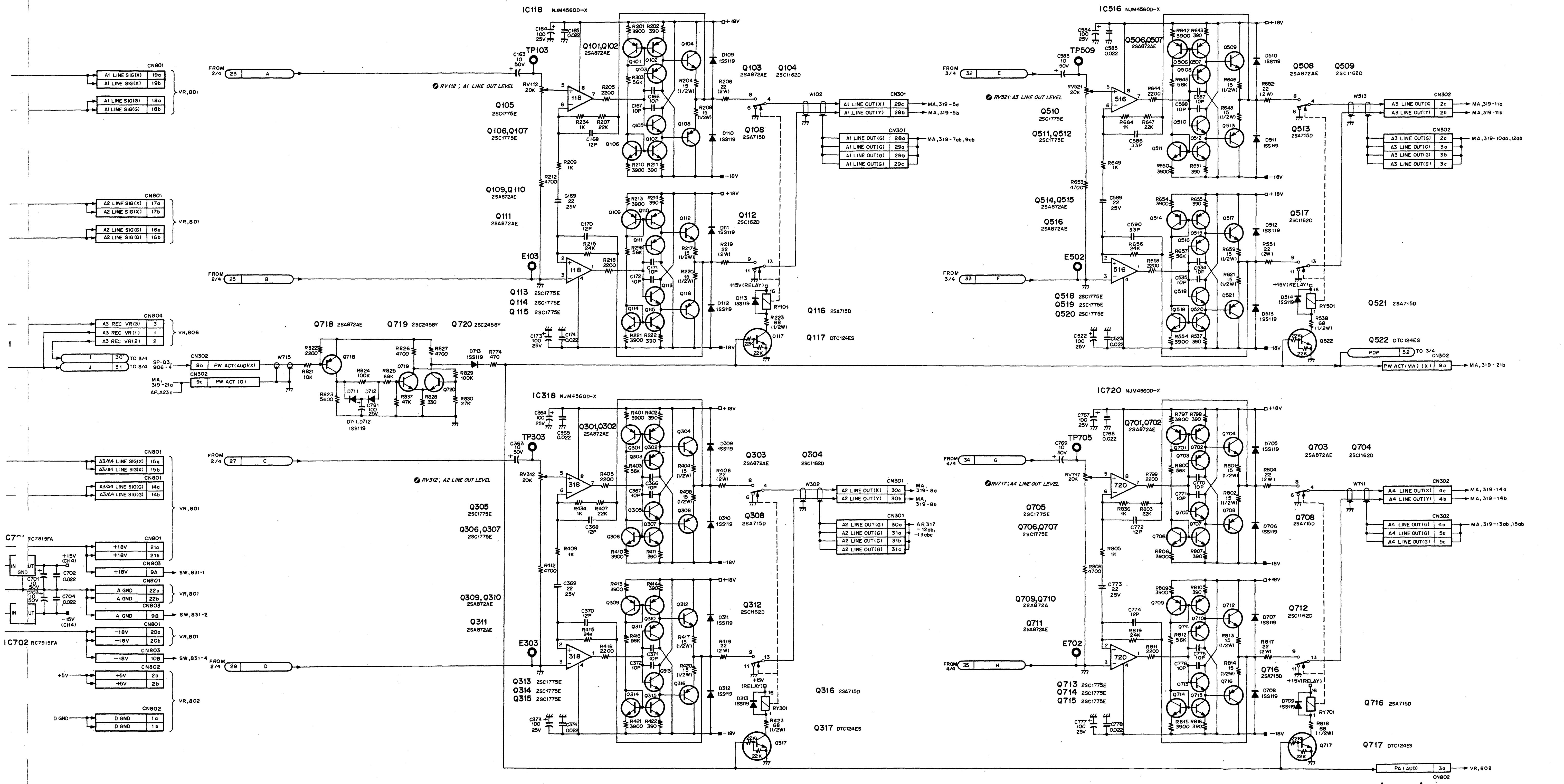
AU-88 BOARD (3/3)

BOARD NO. 1-621-100-11,12,13
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

AU-88 BOARD (1/4) (FOR A4)

Audio REC/PB Amplifier

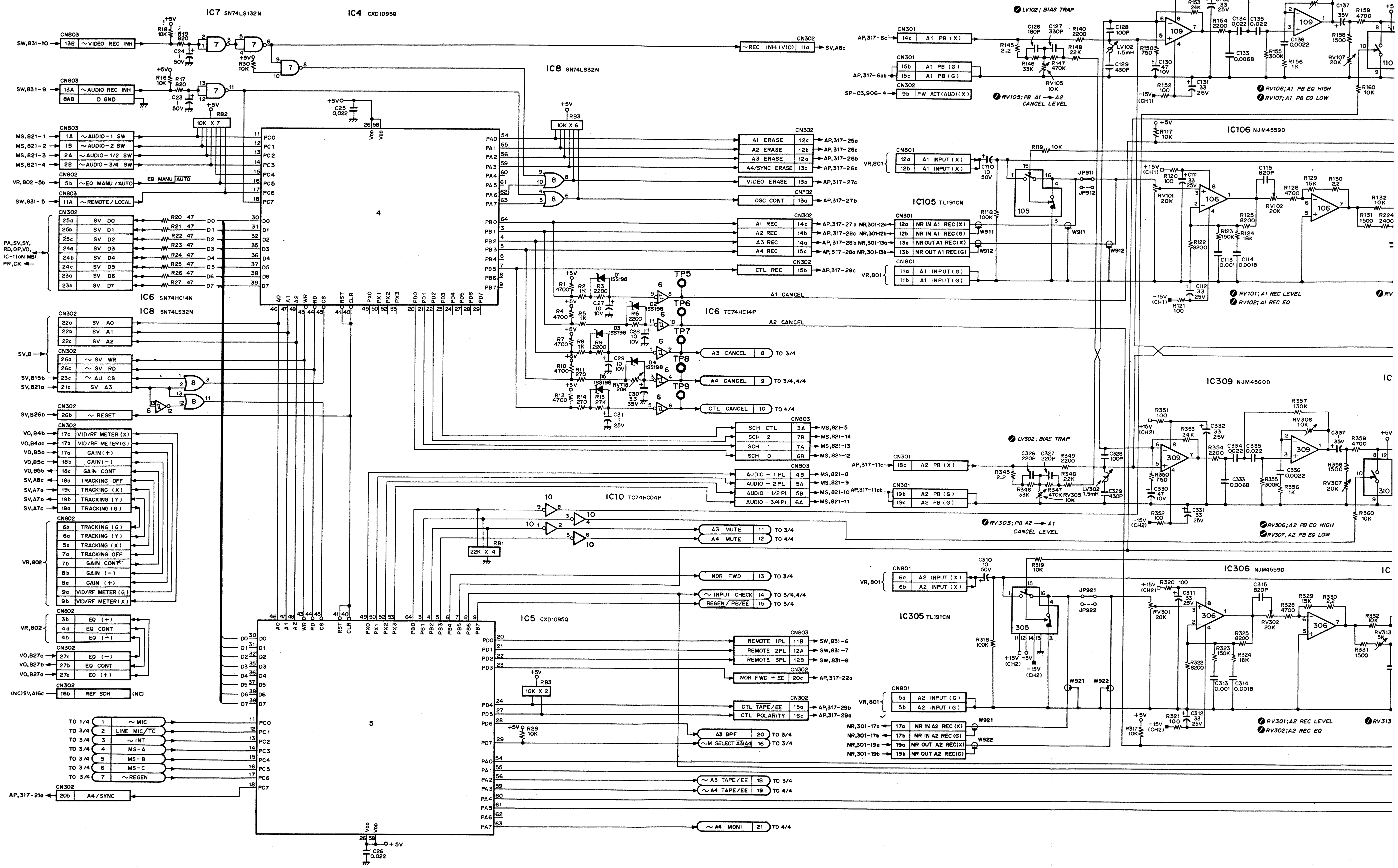

IC103 NE5532P
IC104 NJM4560D
IC303 NE5532P
IC304 NJM4560D
IC503 NE5532P
IC504 NJM4560D
IC505 TL191CN
IC703 NE5532P
IC704 NJM4560D
IC1 NJM78L15A
IC2 NJM79L15A
IC3 RC7815FA
IC101 RC7815FA
IC102 RC7915FA
IC301 RC7815FA
IC302 RC7915FA
IC501 RC7815FA
IC502 RC7915FA
IC701 RC7815FA
IC702 RC7915FA
IC118 NJM4560D-X
IC318 NJM4560D-X
CN301
CN302
CN801
CN802
CN803
CN804
A1 LINE IN (Y)
A1 LINE IN (X)
A1 LINE IN (G)
A2 LINE IN (Y)
A2 LINE IN (X)
A2 LINE IN (G)
A3 LINE IN (Y)
A3 LINE IN (X)
A3 LINE IN (G)
A4 LINE IN (Y)
A4 LINE IN (X)
A4 LINE IN (G)
A1 LINE SIG (X)
A1 LINE SIG (G)
A2 LINE SIG (X)
A2 LINE SIG (G)
A3 REC VR (3)
A3 REC VR (1)
A3 REC VR (2)
A3/A4 LINE SIG (X)
A3/A4 LINE SIG (G)
VR,801
VR,806
VR,802
SW,831-1
SW,831-2
SW,831-4
TP101
TP301
TP501
TP701
TP103
TP303
E101
E301
E501
E701
E103
E303
FROM 2/4
~MIC
TO 3/4
SP-03, 906-4
PW ACT (AUDIO)
PW ACT (G)
Q718 2SA872AE
Q719 2SC2458Y
Q720 2SC2458Y
RV112 ; A1 LINE OUT LEVEL
RV312 ; A2 LINE OUT LEVEL
Q101,Q102 2SA872AE
Q103 2SA872AE
Q105 2SC1775E
Q106,Q107 2SC1775E
Q108 2SA715D
Q109,Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1625D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q301,Q302 2SA872AE
Q303 2SA872AE
Q305 2SC1775E
Q306,Q307 2SC1775E
Q308 2SA715D
Q309,Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1625D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
RY101
RY301
+15V (RELAY)
(INPUT AMP)
+18V
-18V
+15V
-15V
+5V
-5V
A GND
D GND

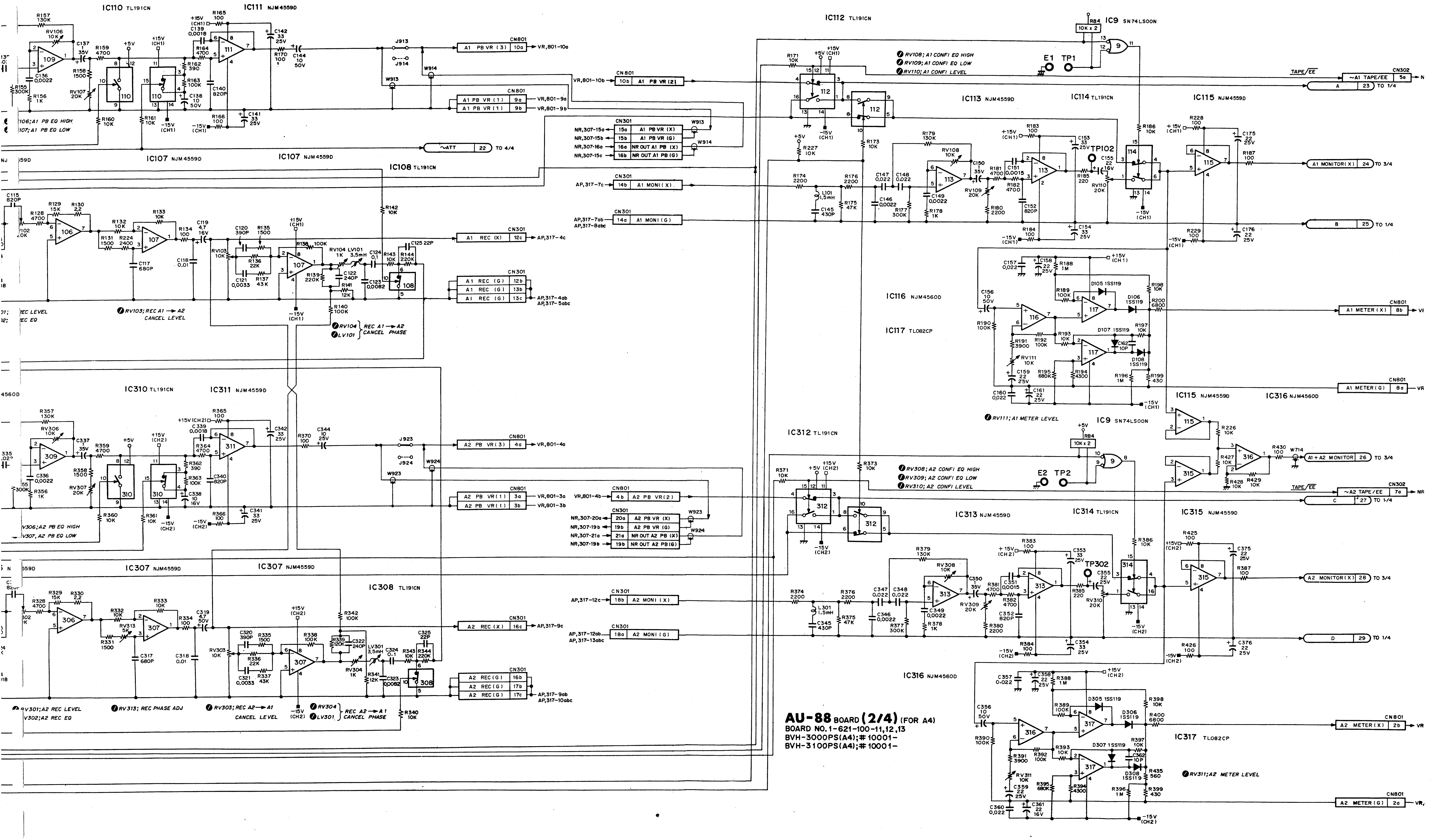

IC118 NJM4560D-X
IC516 NJM4560D-X
IC318 NJM4560D-X
IC720 NJM4560D-X
TP103
TP509
TP303
TP705
E103
E502
E303
E702
Q101,Q102 2SA872AE
Q506,Q507 2SA872AE
Q301,Q302 2SA872AE
Q701,Q702 2SA872AE
Q103 2SA872AE
Q104 2SC1162D
Q508 2SA872AE
Q509 2SC1162D
Q303 2SA872AE
Q304 2SC1162D
Q703 2SA872AE
Q704 2SC1162D
Q105 2SC1775E
Q106,Q107 2SC1775E
Q108 2SA715D
Q109,Q110 2SA872AE
Q111 2SA872AE
Q112 2SC1162D
Q113 2SC1775E
Q114 2SC1775E
Q115 2SC1775E
Q116 2SA715D
Q117 DTC124ES
Q510 2SC1775E
Q511,Q512 2SC1775E
Q513 2SA715D
Q514,Q515 2SA872AE
Q516 2SA872AE
Q517 2SC1162D
Q518 2SC1775E
Q519 2SC1775E
Q520 2SC1775E
Q521 2SA715D
Q522 DTC124ES
Q305 2SC1775E
Q306,Q307 2SC1775E
Q308 2SA715D
Q309,Q310 2SA872AE
Q311 2SA872AE
Q312 2SC1162D
Q313 2SC1775E
Q314 2SC1775E
Q315 2SC1775E
Q316 2SA715D
Q317 DTC124ES
Q705 2SC1775E
Q706,Q707 2SC1775E
Q708 2SA715D
Q709,Q710 2SA872A
Q711 2SA872AE
Q712 2SC1162D
Q713 2SC1775E
Q714 2SC1775E
Q715 2SC1775E
Q716 2SA715D
Q717 DTC124ES
Q718 2SA872AE
Q719 2SC2458Y
Q720 2SC2458Y
RV112 ; A1 LINE OUT LEVEL
RV521 : A3 LINE OUT LEVEL
RV312 ; A2 LINE OUT LEVEL
RV717 : A4 LINE OUT LEVEL
RY101
RY501
RY301
RY701
+15V (RELAY)
FROM 2/4
FROM 3/4
FROM 4/4
CN801
A1 LINE SIG(X) 19a
A1 LINE SIG(X) 19b
A1 LINE SIG(G) 18a
A1 LINE SIG(G) 18b
A2 LINE SIG(X) 17a
A2 LINE SIG(X) 17b
A2 LINE SIG(G) 16a
A2 LINE SIG(G) 16b
VR,801
CN804
A3 REC VR(3) 3
A3 REC VR(1) 1
A3 REC VR(2) 2
VR,806
TO 3/4
SP-03, 906-4
CN302
PW ACT(AUD)(X) 9b
PW ACT (G) 9c
MA, 319-21a AP,A23c
A3/A4 LINE SIG(X) 15a
A3/A4 LINE SIG(X) 15b
A3/A4 LINE SIG(G) 14a
A3/A4 LINE SIG(G) 14b
IC701 RC7815FA
IC702 RC7915FA
+18V 21a
+18V 21b
CN803
+18V 9A
SW,831-1
A GND 22a
A GND 22b
A GND 9B
SW,831-2
-18V 20a
-18V 20b
-18V 10B
SW,831-4
+5V 2a
+5V 2b
VR,802
CN802
D GND 1a
D GND 1b
CN301
A1 LINE OUT(X) 28c
A1 LINE OUT(Y) 28b
MA,319-5a
MA,319-5b
A1 LINE OUT(G) 28a
A1 LINE OUT(G) 29a
A1 LINE OUT(G) 29b
A1 LINE OUT(G) 29c
MA,319-7ab,9ab
A3 LINE OUT(X) 2c
A3 LINE OUT(Y) 2b
MA,319-11a
MA,319-11b
A3 LINE OUT(G) 2a
A3 LINE OUT(G) 3a
A3 LINE OUT(G) 3b
A3 LINE OUT(G) 3c
MA,319-10ab,12ab
POP 52
PW ACT(MA)(X) 9a
MA,319-21b
A2 LINE OUT(X) 30c
A2 LINE OUT(Y) 30b
MA, 319-8a
MA, 319-8b
A2 LINE OUT(G) 30a
A2 LINE OUT(G) 31a
A2 LINE OUT(G) 31b
A2 LINE OUT(G) 31c
AP,317 -12ab, -13abc
A4 LINE OUT(X) 4c
A4 LINE OUT(Y) 4b
MA,319-14a
MA,319-14b
A4 LINE OUT(G) 4a
A4 LINE OUT(G) 5b
A4 LINE OUT(G) 5c
MA,319-13ab,15ab
PA (AUD) 3a
VR,802

AU-88 BOARD (1/4) (FOR A4)
BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4) ; #10001-
BVH-3100PS(A4) ; #10001-

AU-88 BOARD (2/4) (FOR A4)

Audio REC/PB Amplifier

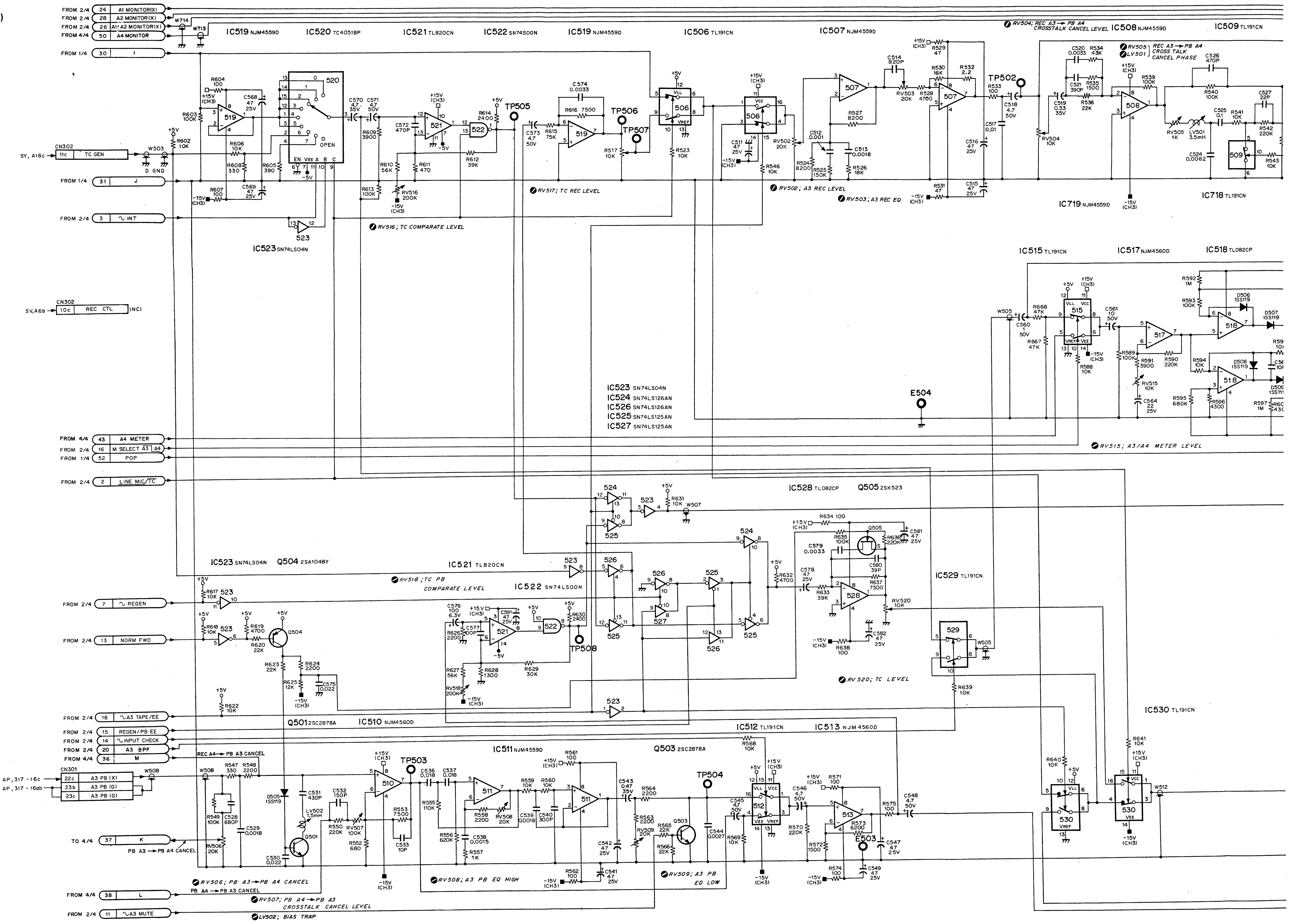

IC7 SN74LS132N
IC4 CXD1095Q
IC8 SN74LS32N
IC6 SN74HC14N
IC8 SN74LS32N
IC6 TC74HC14P
IC10 TC74HC04P
IC5 CXD1095Q
IC109 NJM4560D
IC106 NJM4559D
IC105 TL191CN
IC309 NJM4560D
IC306 NJM4559D
IC305 TL191CN
CN803
CN802
CN302
CN301
CN801
~VIDEO REC INH
~AUDIO REC INH
D GND
~AUDIO-1 SW
~AUDIO-2 SW
~AUDIO-1/2 SW
~AUDIO-3/4 SW
~EQ MANU/AUTO
~REMOTE/LOCAL
SV D0
SV D1
SV D2
SV D3
SV D4
SV D5
SV D6
SV D7
SV A0
SV A1
SV A2
~SV WR
~SV RD
~AU CS
SV A3
~RESET
VID/RF METER (X)
VID/RF METER (G)
GAIN (+)
GAIN (-)
GAIN CONT
TRACKING OFF
TRACKING (X)
TRACKING (Y)
TRACKING (G)
EQ (+)
EQ CONT
EQ (-)
REF SCH
~MIC
LINE MIC/TC
~INT
MS-A
MS-B
MS-C
~REGEN
A4/SYNC
~REC INHI (VID)
A1 ERASE
A2 ERASE
A3 ERASE
A4/SYNC ERASE
VIDEO ERASE
OSC CONT
A1 REC
A2 REC
A3 REC
A4 REC
CTL REC
A1 CANCEL
A2 CANCEL
A3 CANCEL
A4 CANCEL
CTL CANCEL
TP5
TP6
TP7
TP8
TP9
SCH CTL
SCH 2
SCH 1
SCH 0
AUDIO-1 PL
AUDIO-2 PL
AUDIO-1/2 PL
AUDIO-3/4 PL
A3 MUTE
A4 MUTE
NOR FWD
~INPUT CHECK
REGEN/PB/EE
REMOTE 1PL
REMOTE 2PL
REMOTE 3PL
NOR FWD + EE
CTL TAPE/EE
CTL POLARITY
A3 BPF
~M SELECT A3/A4
~A3 TAPE/EE
~A4 TAPE/EE
~A4 MONI
TO 3/4
TO 4/4
A1 PB (X)
A1 PB (G)
PW ACT (AUD)(X)
A1 INPUT (X)
A1 INPUT (G)
NR IN A1 REC (X)
NR IN A1 REC (G)
NR OUT A1 REC (X)
NR OUT A1 REC (G)
A2 PB (X)
A2 PB (G)
A2 INPUT (X)
A2 INPUT (G)
NR IN A2 REC (X)
NR IN A2 REC (G)
NR OUT A2 REC (X)
NR OUT A2 REC (G)
LV102; BIAS TRAP
RV105; PB A1 → A2 CANCEL LEVEL
RV106; A1 PB EQ HIGH
RV107; A1 PB EQ LOW
RV101; A1 REC LEVEL
RV102; A1 REC EQ
LV302; BIAS TRAP
RV305; PB A2 → A1 CANCEL LEVEL
RV306; A2 PB EQ HIGH
RV307; A2 PB EQ LOW
RV301; A2 REC LEVEL
RV302; A2 REC EQ
JP911
JP912
JP921
JP922
W911
W912
W921
W922

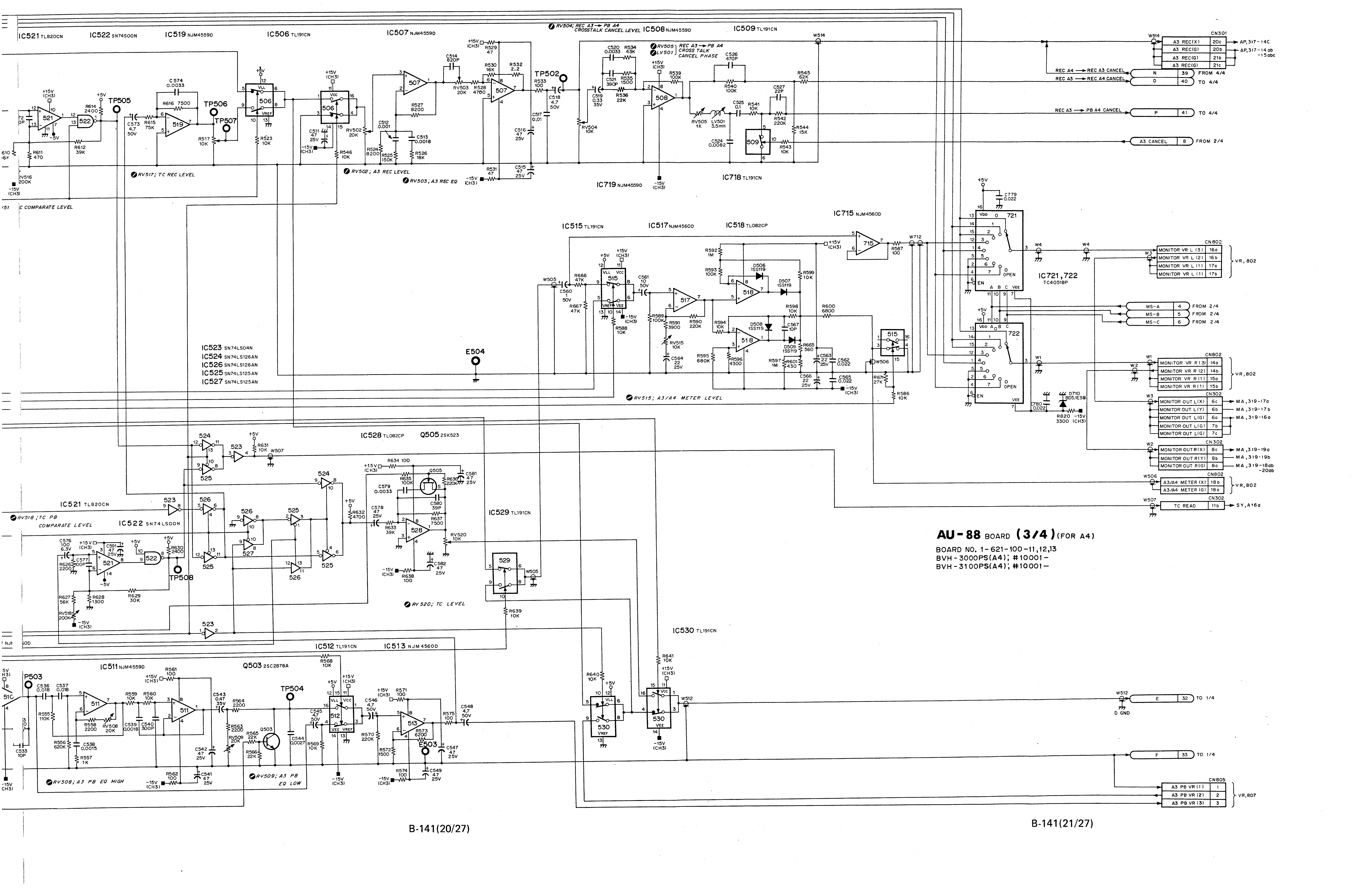

IC110 TL191CN
IC111 NJM4559D
IC112 TL191CN
IC9 SN74LS00N
IC107 NJM4559D
IC108 TL191CN
IC113 NJM4559D
IC114 TL191CN
IC115 NJM4559D
IC116 NJM4560D
IC117 TL082CP
IC310 TL191CN
IC311 NJM4559D
IC312 TL191CN
IC307 NJM4559D
IC308 TL191CN
IC313 NJM4559D
IC314 TL191CN
IC315 NJM4559D
IC316 NJM4560D
IC317 TL082CP
RV106; A1 PB EQ HIGH
RV107; A1 PB EQ LOW
RV103; REC A1 → A2 CANCEL LEVEL
RV104 / LV101 } REC A1 → A2 CANCEL PHASE
RV108; A1 CONFI EQ HIGH
RV109; A1 CONFI EQ LOW
RV110; A1 CONFI LEVEL
RV111; A1 METER LEVEL
RV306; A2 PB EQ HIGH
RV307; A2 PB EQ LOW
RV301; A2 REC LEVEL
RV302; A2 REC EQ
RV313; REC PHASE ADJ
RV303; REC A2 → A1 CANCEL LEVEL
RV304 / LV301 } REC A2 → A1 CANCEL PHASE
RV308; A2 CONFI EQ HIGH
RV309; A2 CONFI EQ LOW
RV310; A2 CONFI LEVEL
RV311; A2 METER LEVEL
CN801 A1 PB VR (3) 10a VR,801-10a
CN801 A1 PB VR (1) 9a VR,801-9a
A1 PB VR (1) 9b VR,801-9b
VR,801-10b CN801 10b A1 PB VR (2)
CN301 15a A1 PB VR (X) NR,307-15a
15b A1 PB VR (G) NR,307-15b
16a NR OUT A1 PB (X) NR,307-16a
16b NR OUT A1 PB (G) NR,307-15c
~ATT 22 TO 4/4
AP,317-7c 14b A1 MONI (X)
AP,317-7ab AP,317-8abc 14a A1 MONI (G)
CN301 A1 REC (X) 12c AP,317-4c
A1 REC (G) 12b
A1 REC (G) 13b
A1 REC (G) 13c AP,317-4ab AP,317-5abc
CN302 ~A1 TAPE/EE 5a
TAPE/EE
A 23 TO 1/4
A1 MONITOR (X) 24 TO 3/4
B 25 TO 1/4
E1 TP1
TP102
CN801 A1 METER (X) 8b
A1 METER (G) 8a
CN801 A2 PB VR (3) 4a VR,801-4a
A2 PB VR (1) 3a VR,801-3a
A2 PB VR (1) 3b VR,801-3b
VR,801-4b 4b A2 PB VR (2)
CN301 20a A2 PB VR (X) NR,307-20a
19b A2 PB VR (G) NR,307-19b
21a NR OUT A2 PB (X) NR,307-21a
19b NR OUT A2 PB (G) NR,307-19b
AP,317-12c 18b A2 MONI (X)
AP,317-12ab AP,317-13abc 18a A2 MONI (G)
CN301 A2 REC (X) 16c AP,317-9c
A2 REC (G) 16b
A2 REC (G) 17b
A2 REC (G) 17c AP,317-9ab AP,317-10abc
A1+A2 MONITOR 26 TO 3/4
CN302 ~A2 TAPE/EE 7a
C 27 TO 1/4
E2 TP2
TP302
A2 MONITOR (X) 28 TO 3/4
D 29 TO 1/4
CN801 A2 METER (X) 2b
A2 METER (G) 2a

AU-88 BOARD **(2/4)** (FOR A4)
BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4);#10001-
BVH-3100PS(A4);#10001-

AU-88 BOARD (3/4) (FOR A4)

Audio REC/PB Amplifier


FROM 2/4 24 A1 MONITOR(X)
FROM 2/4 28 A2 MONITOR(X)
FROM 2/4 26 A1+A2 MONITOR(X)
FROM 4/4 50 A4 MONITOR
FROM 1/4 30 I
SY, A16c CN302 11c TC GEN
FROM 1/4 31 J
FROM 2/4 3 ~ INT
SV,A6b CN302 10c REC CTL (NC)
FROM 4/4 43 A4 METER
FROM 2/4 16 M SELECT A3/A4
FROM 1/4 52 POP
FROM 2/4 2 LINE MIC/TC
FROM 2/4 7 ~ REGEN
FROM 2/4 13 NORM FWD
FROM 2/4 18 ~A3 TAPE/EE
FROM 2/4 15 REGEN/PB·EE
FROM 2/4 14 ~INPUT CHECK
FROM 2/4 20 A3 BPF
FROM 4/4 36 M
AP, 317-16c CN301 22c A3 PB (X)
AP, 317-16ab 23b A3 PB (G)
23c A3 PB (G)
TO 4/4 37 K
FROM 4/4 38 L
FROM 2/4 11 ~A3 MUTE
IC519 NJM4559D
IC520 TC4051BP
IC521 TL820CN
IC522 SN74S00N
IC506 TL191CN
IC507 NJM4559D
IC508 NJM4559D
IC509 TL191CN
IC719 NJM4559D
IC718 TL191CN
IC523 SN74LS04N
IC515 TL191CN
IC517 NJM4560D
IC518 TL082CP
IC523 SN74LS04N
IC524 SN74LS126AN
IC526 SN74LS126AN
IC525 SN74LS125AN
IC527 SN74LS125AN
IC528 TL082CP
Q505 2SK523
IC529 TL191CN
Q504 2SA1048Y
IC522 SN74LS00N
Q501 2SC2878A
IC510 NJM4560D
IC511 NJM4559D
Q503 2SC2878A
IC512 TL191CN
IC513 NJM 4560D
IC530 TL191CN
TP502
TP503
TP504
TP505
TP506
TP507
TP508
E503
E504
RV504; REC A3 → PB A4 CROSSTALK CANCEL LEVEL
RV505 / LV501 REC A3 → PB A4 CROSS TALK CANCEL PHASE
RV517; TC REC LEVEL
RV502; A3 REC LEVEL
RV503; A3 REC EQ
RV516; TC COMPARATE LEVEL
RV515; A3/A4 METER LEVEL
RV518; TC PB COMPARATE LEVEL
RV520; TC LEVEL
REC A4 → PB A3 CANCEL
PB A3 → PB A4 CANCEL
PB A4 → PB A3 CANCEL
RV506; PB A3 → PB A4 CANCEL
RV507; PB A4 → PB A3 CROSSTALK CANCEL LEVEL
LV502; BIAS TRAP
RV508; A3 PB EQ HIGH
RV509; A3 PB EQ LOW
D GND
OPEN

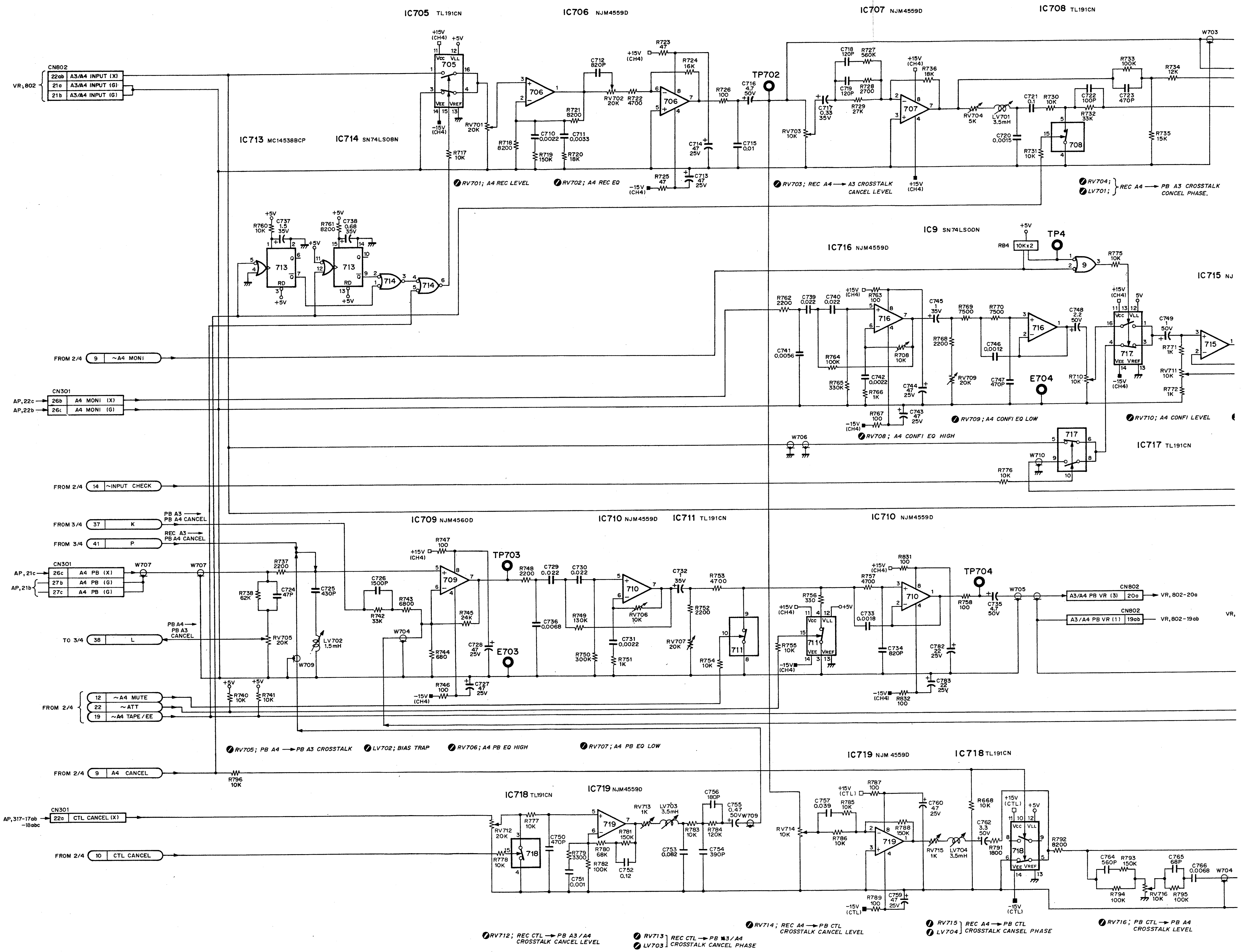

IC521 TL820CN
IC522 SN7400N
IC519 NJM4559D
IC506 TL191CN
IC507 NJM4559D
RV504; REC A3 → PB A4 CROSSTALK CANCEL LEVEL
IC508 NJM4559D
IC509 TL191CN
RV505 LV501 REC A3 → PB A4 CROSS TALK CANCEL PHASE
TP505
TP506
TP507
TP502
RV517; TC REC LEVEL
RV502; A3 REC LEVEL
RV503; A3 REC EQ
IC719 NJM4559D
IC718 TL191CN
C COMPARATE LEVEL
CN301
A3 REC(X) 20c
A3 REC(G) 20b
A3 REC(G) 21b
A3 REC(G) 21c
AP,317-14C
AP,317-14ab -15abc
REC A4 → REC A3 CANCEL
REC A3 → REC A4 CANCEL
N 39 FROM 4/4
O 40 TO 4/4
REC A3 → PB A4 CANCEL
P 41 TO 4/4
A3 CANCEL 8 FROM 2/4
IC715 NJM4560D
IC515 TL191CN
IC517 NJM4560D
IC518 TL082CP
IC721,722 TC4051BP
CN802
MONITOR VR L (3) 16a
MONITOR VR L (2) 16b
MONITOR VR L (1) 17a
MONITOR VR L (1) 17b
VR, 802
MS-A 4 FROM 2/4
MS-B 5 FROM 2/4
MS-C 6 FROM 2/4
E504
IC523 SN74LS04N
IC524 SN74LS126AN
IC526 SN74LS126AN
IC525 SN74LS125AN
IC527 SN74LS125AN
RV515; A3/A4 METER LEVEL
CN802
MONITOR VR R (3) 14a
MONITOR VR R (2) 14b
MONITOR VR R (1) 15a
MONITOR VR R (1) 15b
VR, 802
CN302
MONITOR OUT L(X) 6c MA,319-17a
MONITOR OUT L(Y) 6b MA,319-17b
MONITOR OUT L(G) 6a MA,319-16a
MONITOR OUT L(G) 7b
MONITOR OUT L(G) 7c
CN302
MONITOR OUT R(X) 8c MA,319-19a
MONITOR OUT R(Y) 8b MA,319-19b
MONITOR OUT R(G) 8a MA,319-18ab -20ab
CN802
A3/A4 METER (X) 18b
A3/A4 METER (G) 18a
VR, 802
CN302
TC READ 11b SY,A16a
D710 RD5.1ESB
IC528 TL082CP
Q505 2SK523
IC529 TL191CN
IC521 TL820CN
RV518; TC PB COMPARATE LEVEL
IC522 SN74LS00N
TP508
RV520; TC LEVEL
IC530 TL191CN
IC512 TL191CN
IC513 NJM4560D
IC511 NJM4559D
Q503 2SC2878A
P503
TP504
E503
RV508; A3 PB EQ HIGH
RV509; A3 PB EQ LOW
E 32 TO 1/4
D GND
F 33 TO 1/4
CN805
A3 PB VR (1) 1
A3 PB VR (2) 2
A3 PB VR (3) 3
VR,807

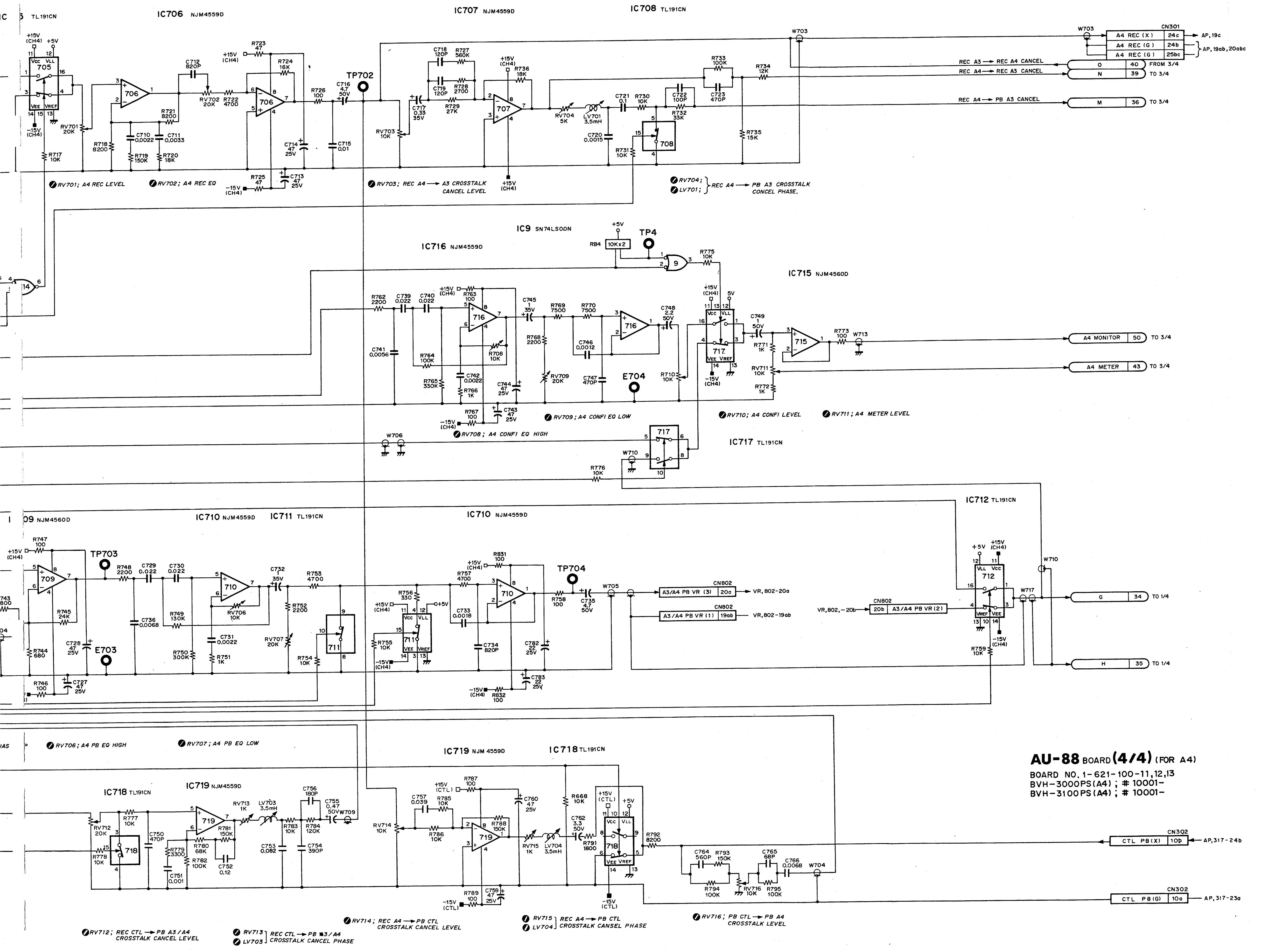
AU-88 BOARD **(3/4)** (FOR A4)

BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4); #10001-
BVH-3100PS(A4); #10001-

AU-88 BOARD (4/4) (FOR A4)

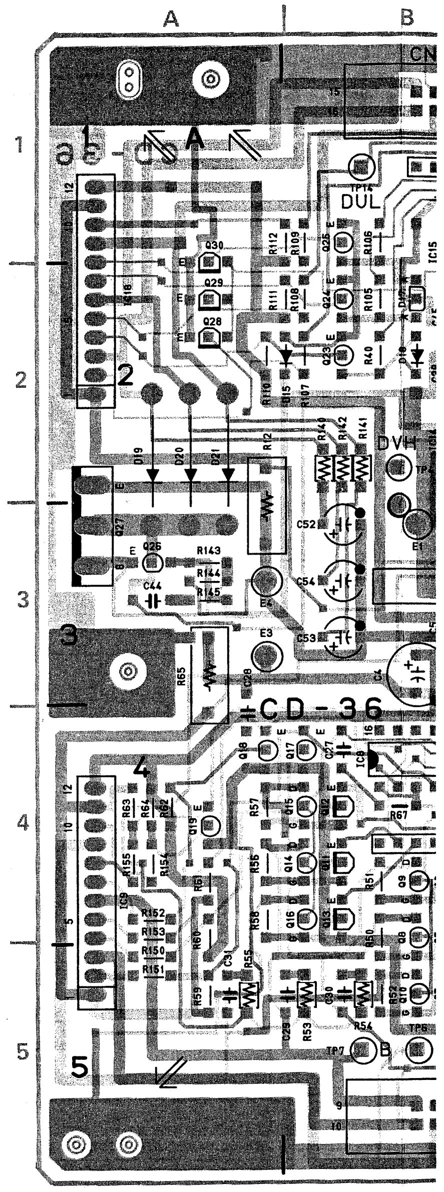
Audio REC/PB Amplifier


IC705 TL191CN
IC706 NJM4559D
IC707 NJM4559D
IC708 TL191CN
IC713 MC14538BCP
IC714 SN74LS08N
IC9 SN74LS00N
IC716 NJM4559D
IC715 NJ
IC717 TL191CN
IC709 NJM4560D
IC710 NJM4559D
IC711 TL191CN
IC719 NJM 4559D
IC718 TL191CN
TP702
TP4
TP703
TP704
E703
E704
CN802
VR,802
22ab A3/A4 INPUT (X)
21a A3/A4 INPUT (G)
21b A3/A4 INPUT (G)
FROM 2/4 9 ~A4 MONI
CN301
AP,22c
AP,22b
26b A4 MONI (X)
26c A4 MONI (G)
FROM 2/4 14 ~INPUT CHECK
FROM 3/4 37 K
PB A3 → PB A4 CANCEL
FROM 3/4 41 P
REC A3 → PB A4 CANCEL
AP,21c
AP,21b
26c A4 PB (X)
27b A4 PB (G)
27c A4 PB (G)
TO 3/4 38 L
PB A4 → PB A3 CANCEL
FROM 2/4
12 ~A4 MUTE
22 ~ATT
19 ~A4 TAPE/EE
FROM 2/4 9 A4 CANCEL
AP,317-17ab -18abc
22a CTL CANCEL (X)
FROM 2/4 10 CTL CANCEL
A3/A4 PB VR (3) 20a
VR,802-20a
A3/A4 PB VR (1) 19ab
VR,802-19ab
RV701; A4 REC LEVEL
RV702; A4 REC EQ
RV703; REC A4 → A3 CROSSTALK CANCEL LEVEL
RV704; LV701; REC A4 → PB A3 CROSSTALK CONCEL PHASE.
RV708; A4 CONFI EQ HIGH
RV709; A4 CONFI EQ LOW
RV710; A4 CONFI LEVEL
RV705; PB A4 → PB A3 CROSSTALK
LV702; BIAS TRAP
RV706; A4 PB EQ HIGH
RV707; A4 PB EQ LOW
RV712; REC CTL → PB A3/A4 CROSSTALK CANCEL LEVEL
RV713 LV703 REC CTL → PB A3/A4 CROSSTALK CANCEL PHASE
RV714; REC A4 → PB CTL CROSSTALK CANCEL LEVEL
RV715 LV704 REC A4 → PB CTL CROSSTALK CANSEL PHASE
RV716; PB CTL → PB A4 CROSSTALK LEVEL
W703
W706
W710
W707
W704
W709
W705
R84 10K×2
+15V (CH4)
-15V (CH4)
+15V (CTL)
-15V (CTL)
+5V


IC706 NJM4559D
IC707 NJM4559D
IC708 TL191CN
IC9 SN74LS00N
IC716 NJM4559D
IC715 NJM4560D
IC717 TL191CN
IC710 NJM4559D
IC711 TL191CN
IC712 TL191CN
IC719 NJM4559D
IC718 TL191CN
TP702
TP703
TP704
TP4
E703
E704
RV701; A4 REC LEVEL
RV702; A4 REC EQ
RV703; REC A4 → A3 CROSSTALK CANCEL LEVEL
RV704; LV701; REC A4 → PB A3 CROSSTALK CONCEL PHASE.
RV708; A4 CONFI EQ HIGH
RV709; A4 CONFI EQ LOW
RV710; A4 CONFI LEVEL
RV711; A4 METER LEVEL
RV706; A4 PB EQ HIGH
RV707; A4 PB EQ LOW
RV712; REC CTL → PB A3/A4 CROSSTALK CANCEL LEVEL
RV713; LV703; REC CTL → PB A3/A4 CROSSTALK CANCEL PHASE
RV714; REC A4 → PB CTL CROSSTALK CANCEL LEVEL
RV715; LV704; REC A4 → PB CTL CROSSTALK CANSEL PHASE
RV716; PB CTL → PB A4 CROSSTALK LEVEL
CN301
A4 REC (X) 24c
A4 REC (G) 24b
A4 REC (G) 25bc
AP, 19c
AP, 19ab, 20abc
REC A3 → REC A4 CANCEL O 40 FROM 3/4
REC A4 → REC A3 CANCEL N 39 TO 3/4
REC A4 → PB A3 CANCEL M 36 TO 3/4
A4 MONITOR 50 TO 3/4
A4 METER 43 TO 3/4
CN802
A3/A4 PB VR (3) 20a VR, 802-20a
A3/A4 PB VR (1) 19ab VR, 802-19ab
VR, 802,-20b 20b A3/A4 PB VR (2)
G 34 TO 1/4
H 35 TO 1/4
CN302
CTL PB (X) 10b AP, 317-24b
CTL PB (G) 10a AP, 317-23a
AU-88 BOARD (4/4) (FOR A4)
BOARD NO. 1-621-100-11,12,13
BVH-3000PS(A4) ; # 10001-
BVH-3100PS(A4) ; # 10001-

CD-36 BOARD (1-621-111-12)

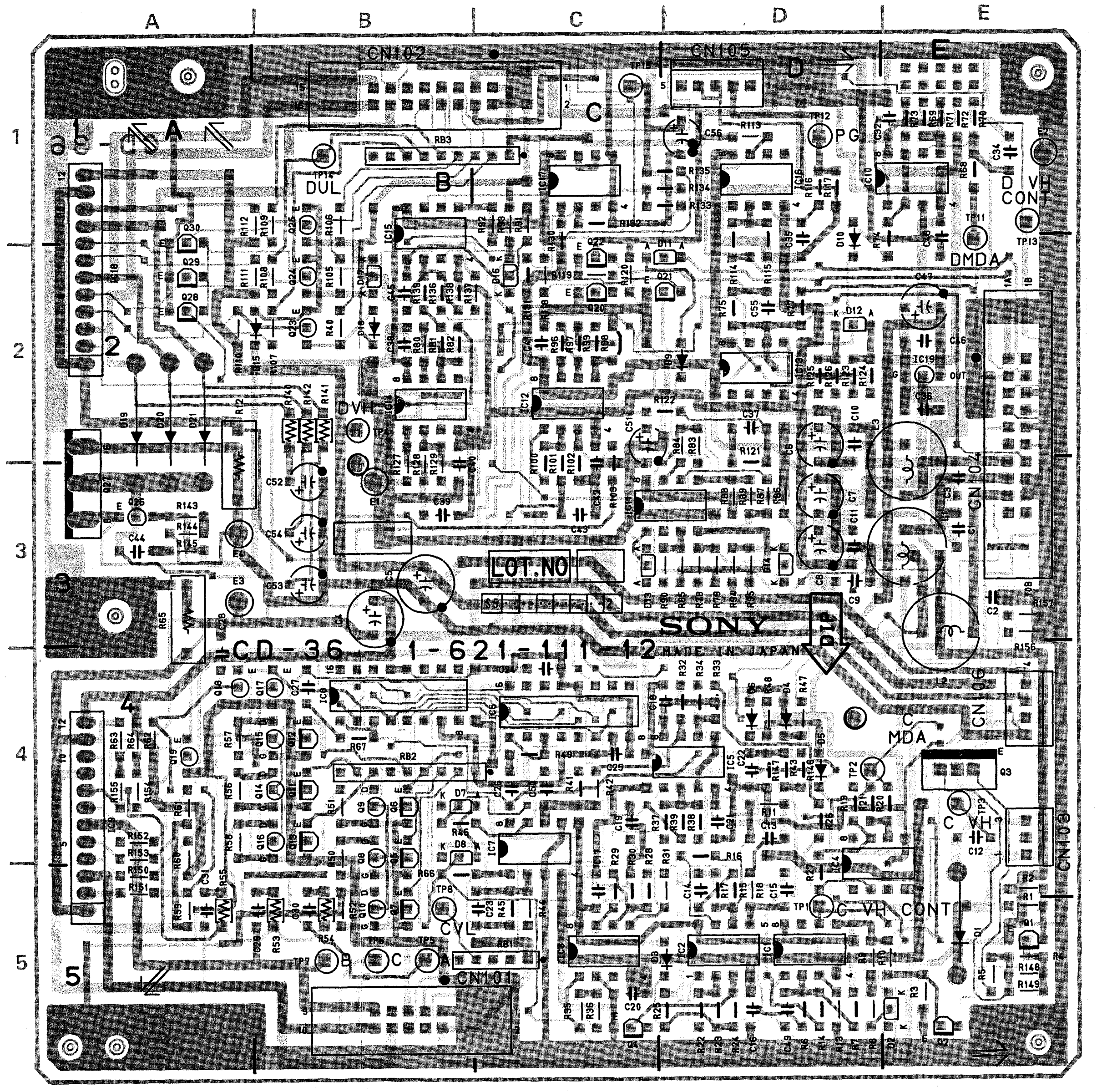
Component Side


A
B
1
2
3
4
5
CN
DUL
DVH
CD-36
TP16
C52
C54
C53
C44
E3
R143
R144
R145
R65
TP7
TP8

1-621-111-12 COMPONENT SIDE

CD-36 BOARD (1-621-111-12)

Component Side


A
B
C
D
E
1
2
3
4
5
CN102
CN105
CN104
CN106
CN103
CN101
DUL
DVH
PG
D VH CONT
DMDA
C MDA
C VH
C VH CONT
CVL
LOT.NO
SONY
CD-36
1-621-111-12
MADE IN JAPAN
DIP

1-621-111-12 COMPONENT SIDE

1-621-111-12 SOLDER SIDE

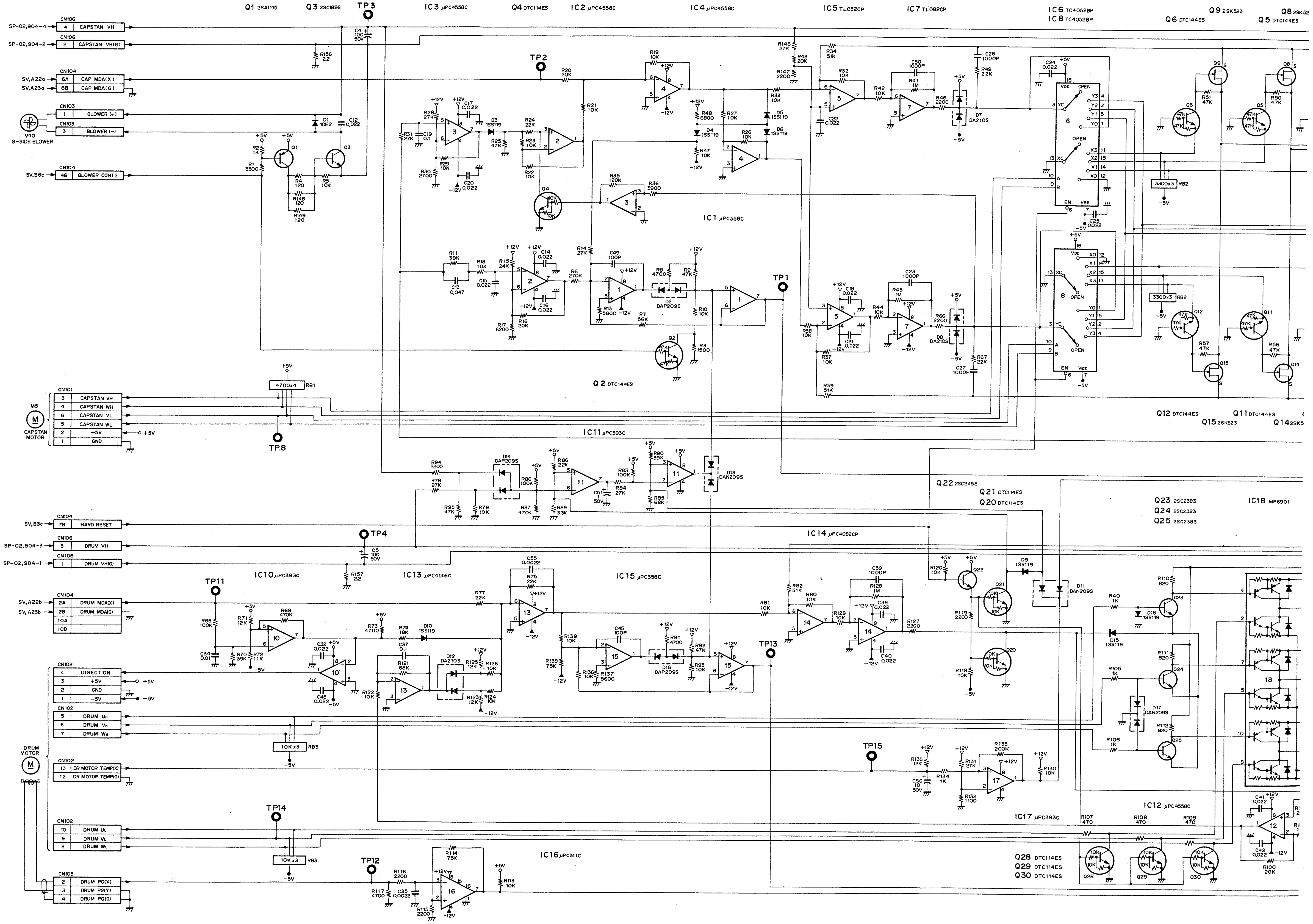
CD-36 (1-621-111-12)

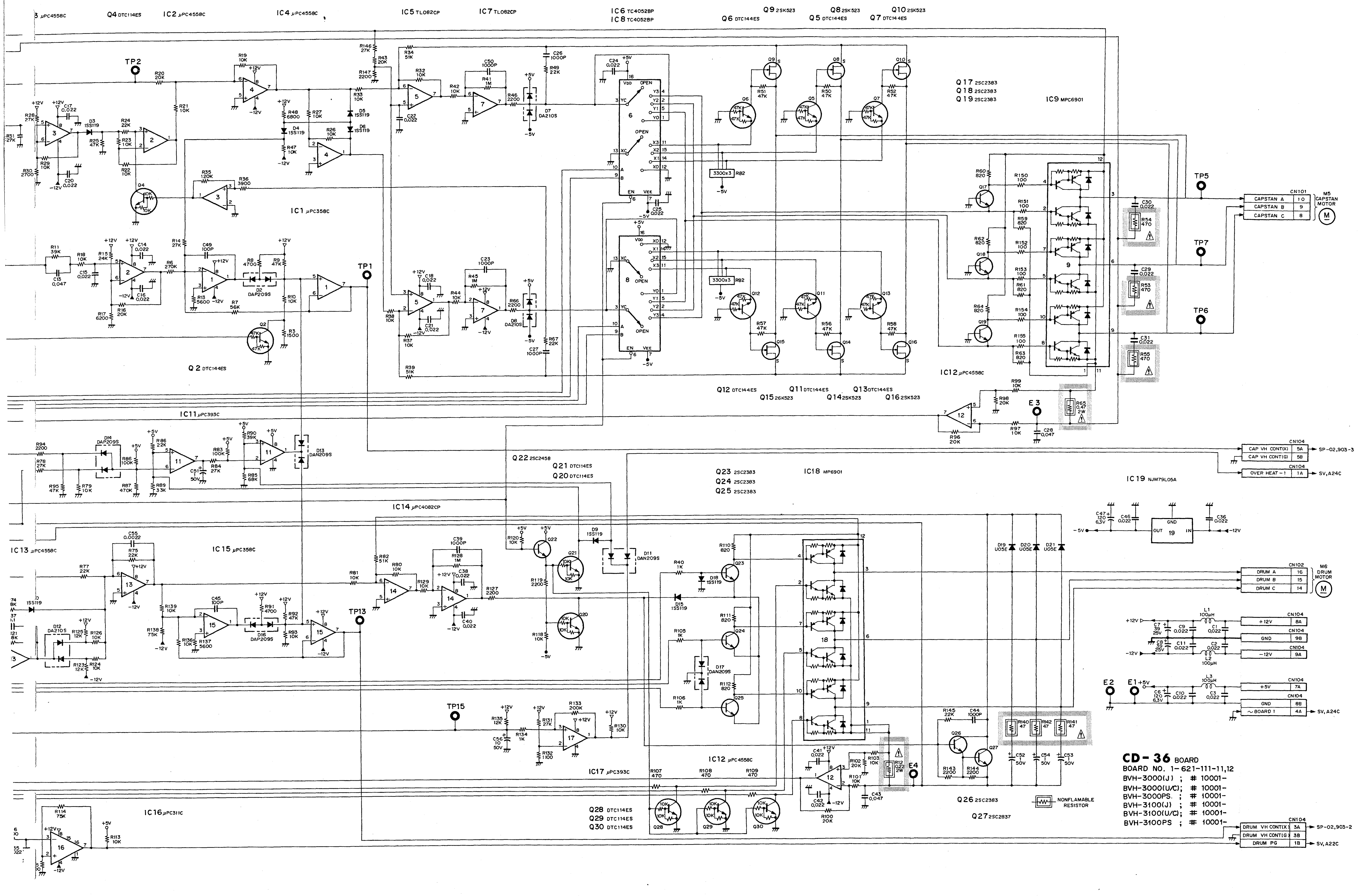
BVH-3000/PS
BVH-3100/PS

CN101	C5	Q1	G5
CN102	C1	Q2	F5
CN103	G5	Q3	G4
CN104	G3	Q4	E5
CN105	E1	Q5	C5
CN106	G4	Q6	C5
		Q7	C5
D1	G5	Q8	B5
D2	F5	Q9	B5
D3	E5	Q10	B5
D4	F4	Q11	B5
D5	F4	Q12	B4
D6	E4	Q13	B5
D7	C5	Q14	B5
D8	C5	Q15	B4
D9	E2	Q16	B5
D10	F2	Q17	B4
D11	E2	Q18	B4
D12	F2	Q19	A4
D13	E3	Q20	D2
D14	F3	Q21	E2
D15	B2	Q22	D2
D16	D2	Q23	B2
D17	B2	Q24	B2
D18	B2	Q25	B2
D19	A3	Q26	A3
D20	A3	Q27	A3
D21	A3	Q28	A2
		Q29	A2
E1	B3	Q30	A1
E2	G1		
E3	B4	TP1	F5
E4	B3	TP2	F4
		TP3	G5
IC1	F5	TP4	B3
IC2	E5	TP5	C5
IC3	D5	TP6	B5
IC4	F5	TP7	B5
IC5	E4	TP8	C5
IC6	D4	TP11	G2
IC7	D5	TP12	F1
IC8	B4	TP13	G2
IC9	A5	TP14	B1
IC10	F1	TP15	B1
IC11	E3		
IC12	D3		
IC13	F2		
IC14	C3		
IC15	C2		
IC16	F1		
IC17	D1		
IC18	A2		
IC19	F2		
L1	F3		
L2	F4		
L3	F3		

CD-36 BOARD

Capstan Motor/Drum Motor Driver


Q1 2SA1115
Q3 2SC1826
TP3
IC3 μPC4558C
Q4 DTC114ES
IC2 μPC4558C
IC4 μPC4558C
IC5 TL082CP
IC7 TL082CP
IC6 TC4052BP
IC8 TC4052BP
Q6 DTC144ES
Q9 2SK523
Q8 2SK52
Q5 DTC144ES
SP-02,904-4
SP-02,904-2
CN106
4 CAPSTAN VH
2 CAPSTAN VH(G)
CN104
6A CAP MDA(X)
6B CAP MDA(G)
SV,A22a
SV,A23a
CN103
1 BLOWER (+)
3 BLOWER (−)
M10 S-SIDE BLOWER
SV,B6c
4B BLOWER CONT2
TP2
TP1
IC1 μPC358C
Q2 DTC144ES
CN101
3 CAPSTAN VH
4 CAPSTAN WH
6 CAPSTAN VL
5 CAPSTAN WL
2 +5V
1 GND
M5 CAPSTAN MOTOR
TP8
R81 4700x4
IC11 μPC393C
Q22 2SC2458
Q21 DTC114ES
Q20 DTC114ES
Q23 2SC2383
Q24 2SC2383
Q25 2SC2383
IC18 MP6901
Q12 DTC144ES
Q11 DTC144ES
Q15 2SK523
Q14 2SK5
SV,B3c
7B HARD RESET
SP-02,904-3
3 DRUM VH
SP-02,904-1
1 DRUM VH(G)
TP4
IC14 μPC4082CP
TP11
IC10 μPC393C
IC13 μPC4558C
IC15 μPC358C
SV,A22b
SV,A23b
2A DRUM MDA(X)
2B DRUM MDA(G)
10A
10B
CN102
4 DIRECTION
3 +5V
2 GND
1 −5V
5 DRUM UH
6 DRUM VH
7 DRUM WH
R83 10K x3
DRUM MOTOR
13 DR MOTOR TEMP(X)
12 DR MOTOR TEMP(G)
TP13
TP15
IC17 μPC393C
IC12 μPC4558C
TP14
9 DRUM UL
10 DRUM VL
8 DRUM WL
TP12
IC16 μPC311C
CN105
2 DRUM PG(X)
3 DRUM PG(Y)
4 DRUM PG(G)
Q28 DTC114ES
Q29 DTC114ES
Q30 DTC114ES

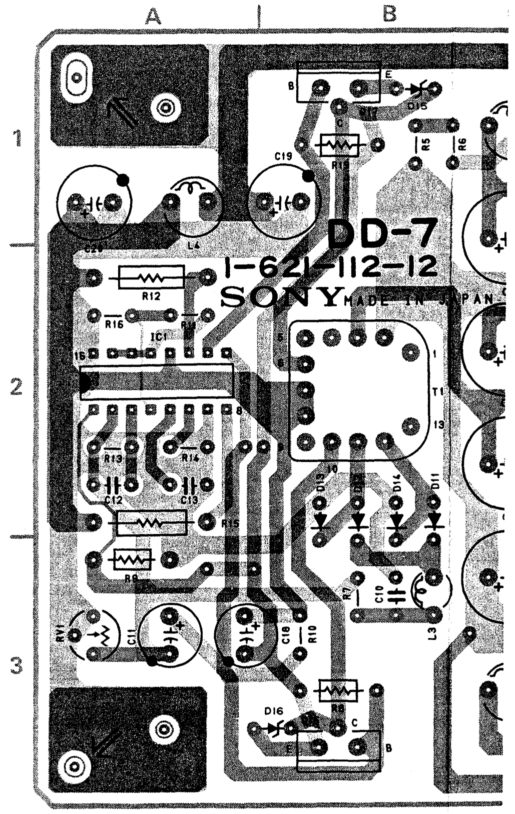


IC1 μPC358C
IC2 μPC4558C
IC4 μPC4558C
IC5 TL082CP
IC7 TL082CP
IC6 TC4052BP
IC8 TC4052BP
IC9 MPC6901
IC11 μPC393C
IC12 μPC4558C
IC13 μPC4558C
IC14 μPC4082CP
IC15 μPC358C
IC16 μPC311C
IC17 μPC393C
IC18 MP6901
IC19 NJM79L05A
Q2 DTC144ES
Q4 DTC114ES
Q5 DTC144ES
Q6 DTC144ES
Q7 DTC144ES
Q8 2SK523
Q9 2SK523
Q10 2SK523
Q11 DTC144ES
Q12 DTC144ES
Q13 DTC144ES
Q14 2SK523
Q15 2SK523
Q16 2SK523
Q17 2SC2383
Q18 2SC2383
Q19 2SC2383
Q20 DTC114ES
Q21 DTC114ES
Q22 2SC2458
Q23 2SC2383
Q24 2SC2383
Q25 2SC2383
Q26 2SC2383
Q27 2SC2837
Q28 DTC114ES
Q29 DTC114ES
Q30 DTC114ES
TP1
TP2
TP5
TP6
TP7
TP13
TP15
E1 +5V
E2
E3
E4
CN101
CAPSTAN A 10
CAPSTAN B 9
CAPSTAN C 8
M5 CAPSTAN MOTOR
CN104
CAP VH CONT(X) 5A
CAP VH CONT(G) 5B
SP-02,903-3
OVER HEAT-1 1A
SV,A24C
CN102
DRUM A 16
DRUM B 15
DRUM C 14
M6 DRUM MOTOR
+12V 8A
GND 9B
-12V 9A
+5V 7A
GND 8B
~BOARD 1 4A
SV,A24C
DRUM VH CONT(X) 3A
DRUM VH CONT(G) 3B
SP-02,903-2
DRUM PG 1B
SV,A22C
NONFLAMABLE RESISTOR

CD-36 BOARD
BOARD NO. 1-621-111-11,12
BVH-3000(J) ; # 10001-
BVH-3000(U/C); # 10001-
BVH-3000PS. ; # 10001-
BVH-3100(J) ; # 10001-
BVH-3100(U/C); # 10001-
BVH-3100PS ; # 10001-

DD-7 BOARD (1-621-112-12)

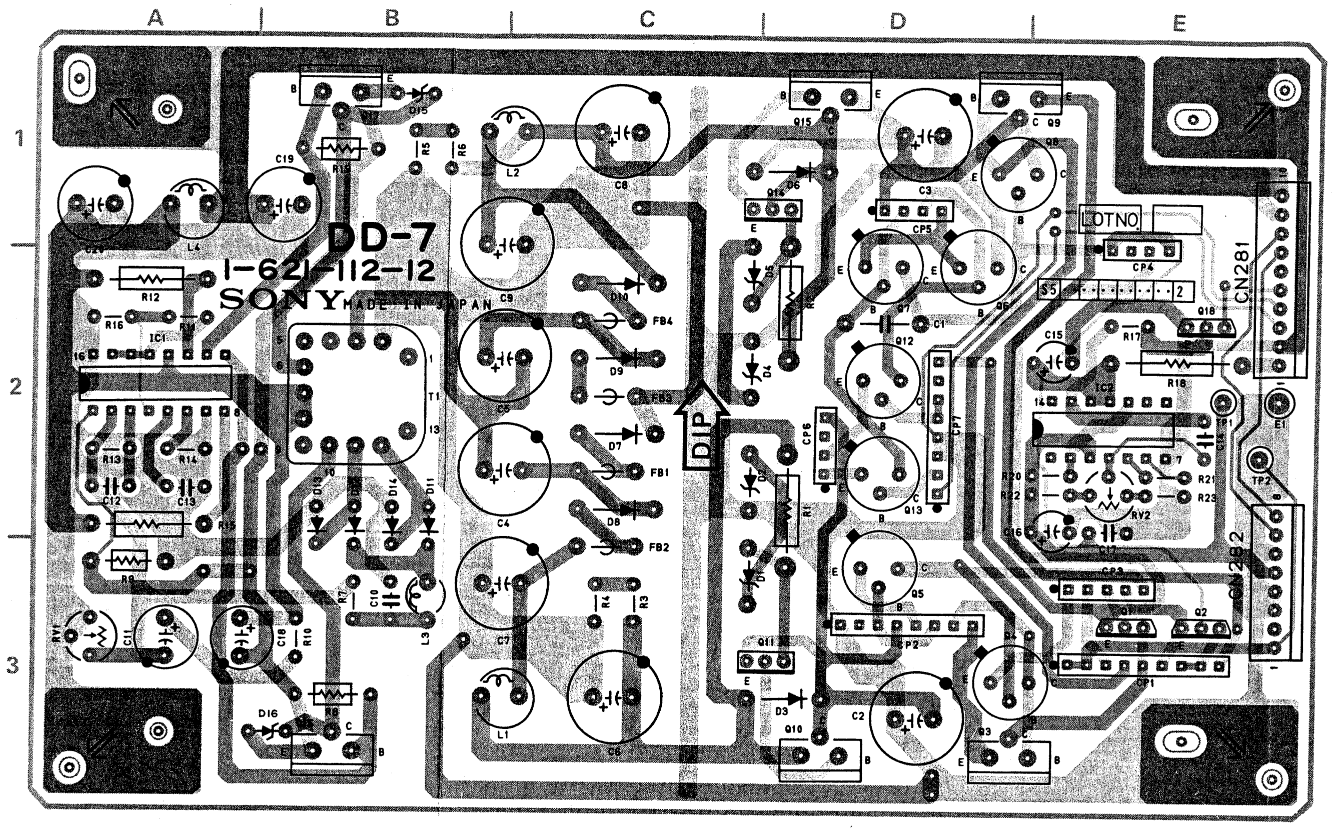
Component Side


A
B
1
2
3
C19
R11
D15
R5
R6
L4
DD-7
1-621-112-12
SONY
MADE IN JAPAN
R12
R16
IC1
T1
R13
R14
C12
C13
D13
D14
D11
R15
R9
C10
L3
RV1
C11
C18
R10
D16
R8

1-621-112-12 COMPONENT SIDE

DD-7 BOARD (1-621-112-12)

Component Side


A
B
C
D
E
1
2
3
DD-7
1-621-112-12
SONY
MADE IN JAPAN
DIP
CN281
CN282
LOTNO

1-621-112-12 COMPONENT SIDE

1-621-112-12 SOLDER SIDE

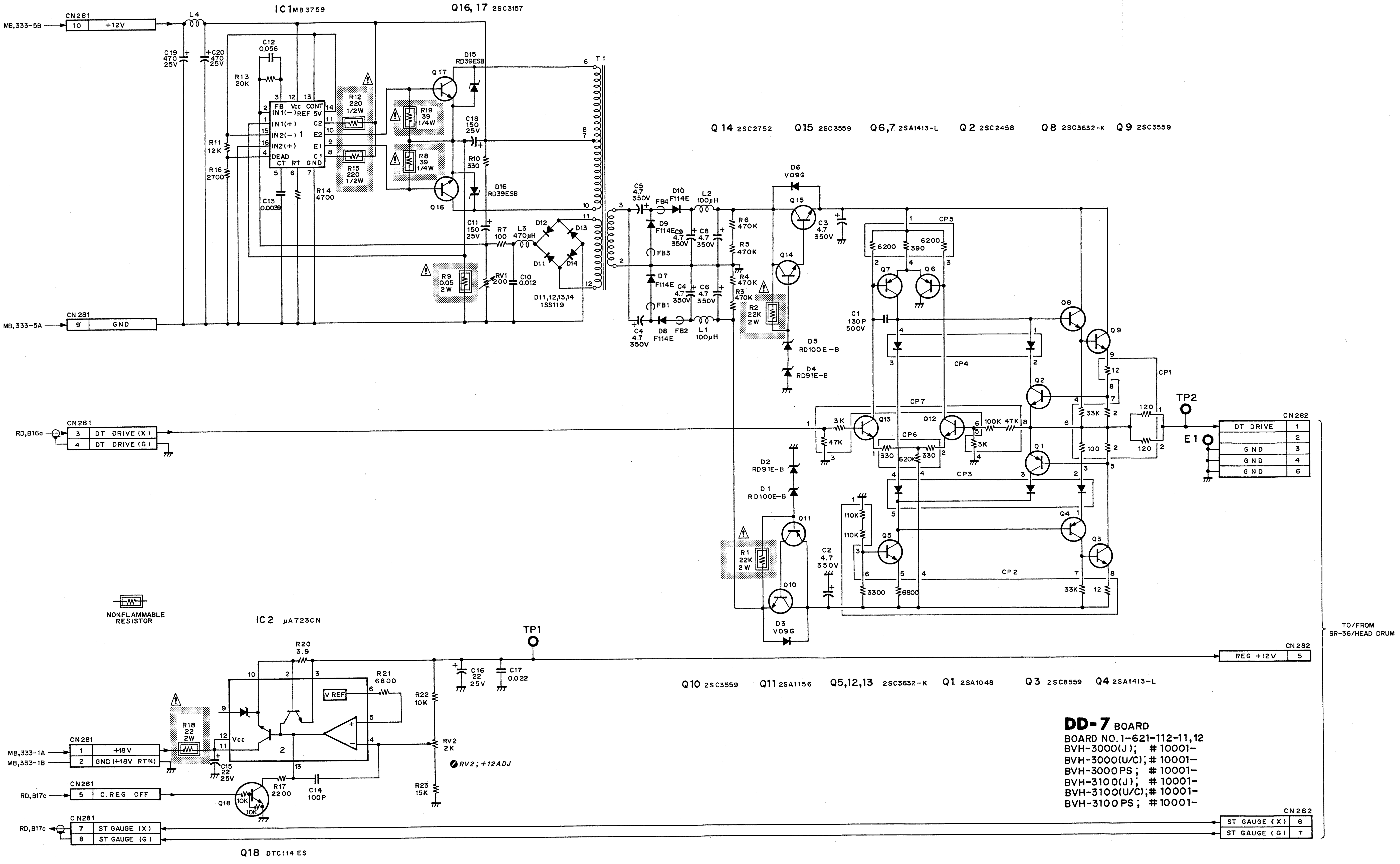
DD-7 (1-621-112-12)

BVH-3000/PS
BVH-3100/PS

CN281	E2
CN282	E3
CP1	E3
CP2	D3
CP3	E3
CP4	E1
CP5	D1
CP6	D2
CP7	D2
D1	C3
D2	C2
D3	D3
D4	C2
D5	C2
D6	D1
D7	C2
D8	C2
D9	C2
D10	C2
D11	B2
D12	B2
D13	B2
D14	B2
D15	B1
D16	B3
E1	E2
FB1	C2
FB2	C3
FB3	C2
FB4	C2
IC1	A2
IC2	E2
Q1	E3
Q2	E3
Q3	D3
Q4	D3
Q5	D3
Q6	D2
Q7	D2
Q8	D1
Q9	D1
Q10	D3
Q11	C3
Q12	D2
Q13	D2
Q14	C1
Q15	D1
Q16	B3
Q17	B1
Q18	E2
RV1	A3
RV2	E2
T1	B2
TP1	E2
TP2	E2

DD-7 BOARD

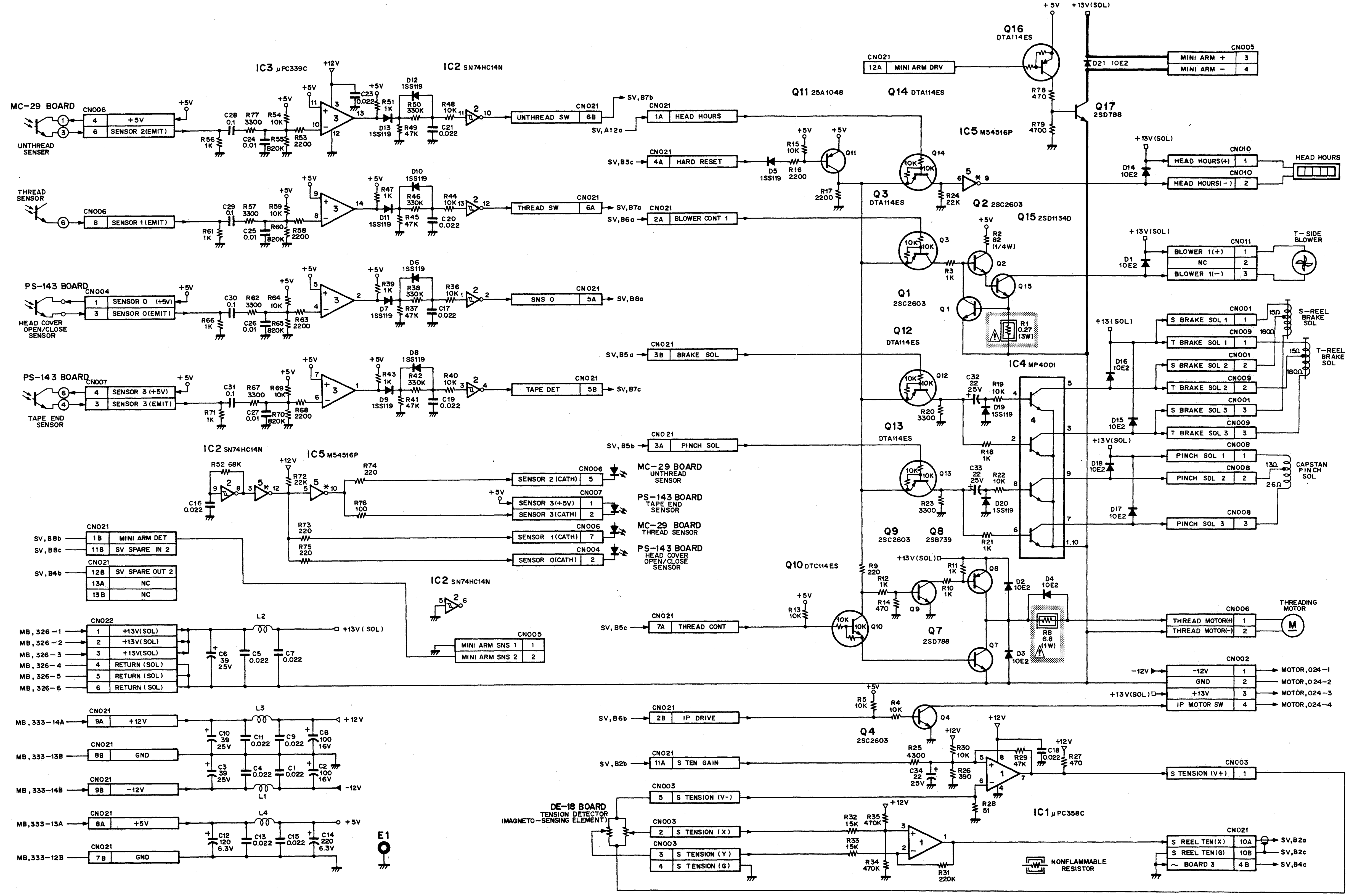
DT Driver


CN281
MB,333-5B
10 +12V
L4
C19 470 25V
C20 470 25V
IC1 MB3759
Q16, 17 2SC3157
C12 0.056
R13 20K
FB Vcc CONT
IN1(−) REF 5V
IN1(+) C2
IN2(−) E2
IN2(+) E1
DEAD C1
CT RT GND
R11 12K
R16 2700
C13 0.0039
R14 4700
R12 220 1/2W
R15 220 1/2W
R19 39 1/4W
R8 39 1/4W
Q17
Q16
D15 RD39ESB
D16 RD39ESB
C18 150 25V
R10 330
C11 150 25V
R7 100
L3 470μH
D12 D13 D11 D14
D11,12,13,14 1SS119
R9 0.05 2W
RV1 200
C10 0.012
T1
CN 281
MB,333-5A
9 GND
C5 4.7 350V
FB4
D10 F114E
L2 100μH
D9 F114E
C9 4.7 350V
C8 4.7 350V
FB3
D7 F114E
C4 4.7 350V
C6 4.7 350V
FB1
C4 4.7 350V
D8 F114E
FB2
L1 100μH
R6 470K
R5 470K
R4 470K
R3 470K
R2 22K 2W
D6 V09G
Q15
C3 4.7 350V
Q14
D5 RD100E-B
D4 RD91E-B
Q14 2SC2752
Q15 2SC3559
Q6,7 2SA1413-L
Q2 2SC2458
Q8 2SC3632-K
Q9 2SC3559
CP5
6200 390 6200
Q7 Q6
C1 130P 500V
Q8 Q9
CP4
CP1
Q2
CP7
120 120
TP2
E1
CN281
RD,B16a
3 DT DRIVE (X)
4 DT DRIVE (G)
3K 47K
Q13 Q12
100K 47K
CP6
330 620K 330
33K 100
3K
Q1
CP3
D2 RD91E-B
D1 RD100E-B
Q11
110K 110K
Q5
Q4
Q3
C2 4.7 350V
R1 22K 2W
Q10
D3 V09G
CP2
3300 6800
33K 12
CN282
DT DRIVE 1
2
GND 3
GND 4
GND 6
TO/FROM SR-36/HEAD DRUM
NONFLAMMABLE RESISTOR
IC2 μA723CN
R20 3.9
R21 6800
V REF
Vcc
TP1
C16 22 25V
C17 0.022
R22 10K
RV2 2K
RV2 ; +12ADJ
R23 15K
REG +12V 5
Q10 2SC3559
Q11 2SA1156
Q5,12,13 2SC3632-K
Q1 2SA1048
Q3 2SC8559
Q4 2SA1413-L
R18 22 2W
CN281
MB,333-1A
MB,333-1B
1 +18V
2 GND(+18V RTN)
C15 22 25V
R17 2200
C14 100P
CN281
RD,B17c
5 C.REG OFF
Q18
10K 10K
C N281
RD,B17a
7 ST GAUGE (X)
8 ST GAUGE (G)
CN282
ST GAUGE (X) 8
ST GAUGE (G) 7
Q18 DTC114ES

DD-7 BOARD
BOARD NO. 1-621-112-11, 12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

DS-19 BOARD

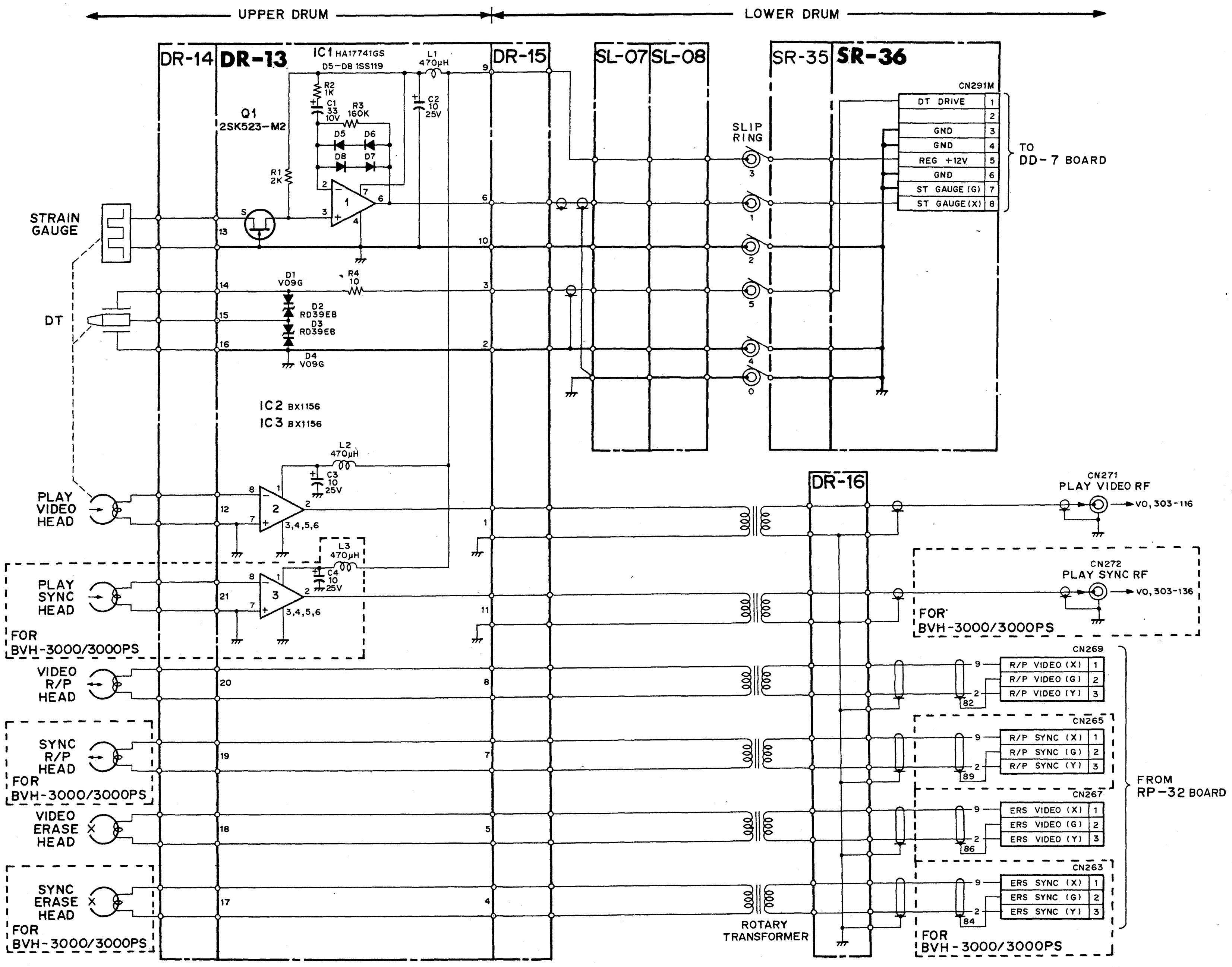
TTP Aux


MC-29 BOARD
UNTHREAD SENSER
THREAD SENSOR
PS-143 BOARD
HEAD COVER OPEN/CLOSE SENSOR
TAPE END SENSOR
CN006
+5V
SENSOR 2(EMIT)
SENSOR 1(EMIT)
CN004
SENSOR 0 (+5V)
SENSOR 0(EMIT)
CN007
SENSOR 3 (+5V)
SENSOR 3 (EMIT)
IC3 μPC339C
IC2 SN74HC14N
IC5 M54516P
UNTHREAD SW
THREAD SW
SNS 0
TAPE DET
CN021
HEAD HOURS
HARD RESET
BLOWER CONT 1
BRAKE SOL
PINCH SOL
THREAD CONT
IP DRIVE
S TEN GAIN
MINI ARM DRV
MINI ARM DET
SV SPARE IN 2
SV SPARE OUT 2
NC
SENSOR 2 (CATH)
SENSOR 3(+5V)
SENSOR 3(CATH)
SENSOR 1(CATH)
SENSOR 0(CATH)
MC-29 BOARD UNTHREAD SENSOR
PS-143 BOARD TAPE END SENSOR
MC-29 BOARD THREAD SENSOR
PS-143 BOARD HEAD COVER OPEN/CLOSE SENSOR
CN005
MINI ARM SNS 1
MINI ARM SNS 2
CN022
+13V(SOL)
RETURN (SOL)
+12V
GND
-12V
+5V
MB,326-1
MB,326-2
MB,326-3
MB,326-4
MB,326-5
MB,326-6
MB,333-14A
MB,333-13B
MB,333-14B
MB,333-13A
MB,333-12B
E1
Q16 DTA114ES
Q17 2SD788
Q11 2SA1048
Q14 DTA114ES
Q3 DTA114ES
Q2 2SC2603
Q15 2SD1134D
Q1 2SC2603
Q12 DTA114ES
Q13 DTA114ES
Q9 2SC2603
Q8 2SB739
Q10 DTC114ES
Q7 2SD788
Q4 2SC2603
IC4 MP4001
IC1 μPC358C
MINI ARM +
MINI ARM -
CN010
HEAD HOURS(+)
HEAD HOURS(-)
HEAD HOURS
CN011
BLOWER 1(+)
BLOWER 1(-)
T-SIDE BLOWER
CN001
CN009
S BRAKE SOL 1
T BRAKE SOL 1
S BRAKE SOL 2
T BRAKE SOL 2
S BRAKE SOL 3
T BRAKE SOL 3
S-REEL BRAKE SOL
T-REEL BRAKE SOL
CN008
PINCH SOL 1
PINCH SOL 2
PINCH SOL 3
CAPSTAN PINCH SOL
THREAD MOTOR(+)
THREAD MOTOR(-)
THREADING MOTOR
CN002
IP MOTOR SW
MOTOR,024-1
MOTOR,024-2
MOTOR,024-3
MOTOR,024-4
CN003
S TENSION (V+)
S TENSION (V-)
S TENSION (X)
S TENSION (Y)
S TENSION (G)
DE-18 BOARD TENSION DETECTOR (MAGNETO-SENSING ELEMENT)
S REEL TEN(X)
S REEL TEN(G)
~ BOARD 3
SV,B2a
SV,B2c
SV,B4c
NONFLAMMABLE RESISTOR
R1 0.27 (3W)
R8 6.8 (1W)

DS-19 BOARD
BOARD NO. 1-621-117-11,12,13
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J) #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

HEAD DRUM

DR-13 BOARD:	**Video/Sync PB Amplifier**
DR-14 BOARD:	**Rotary Head Relaying**
DR-15 BOARD:	**Rotary Head Relaying**
DR-16 BOARD:	**Rotary Head Relaying**
SL-07 BOARD:	**Slip Ring Relaying**
SL-08 BOARD:	**Slip Ring Relaying**
SR-36 BOARD:	**Slip Ring Relaying**


UPPER DRUM
LOWER DRUM
DR-14
DR-13
DR-15
SL-07
SL-08
SR-35
SR-36
DR-16
IC1 HA17741GS
D5–D8 1SS119
L1 470μH
R2 1K
C1 33 10V
R3 160K
C2 10 25V
Q1 2SK523–M2
D5 D6 D8 D7
R1 2K
D1 V09G
R4 10
D2 RD39EB
D3 RD39EB
D4 V09G
IC2 BX1156
IC3 BX1156
L2 470μH
C3 10 25V
L3 470μH
C4 10 25V
STRAIN GAUGE
DT
PLAY VIDEO HEAD
PLAY SYNC HEAD
FOR BVH-3000/3000PS
VIDEO R/P HEAD
SYNC R/P HEAD
FOR BVH-3000/3000PS
VIDEO ERASE HEAD
SYNC ERASE HEAD
FOR BVH-3000/3000PS
SLIP RING
ROTARY TRANSFORMER
CN291M
DT DRIVE 1
2
GND 3
GND 4
REG +12V 5
GND 6
ST GAUGE (G) 7
ST GAUGE (X) 8
TO DD-7 BOARD
CN271 PLAY VIDEO RF
VO, 303-116
CN272 PLAY SYNC RF
VO, 303-136
FOR BVH-3000/3000PS
CN269
R/P VIDEO (X) 1
R/P VIDEO (G) 2
R/P VIDEO (Y) 3
82
CN265
R/P SYNC (X) 1
R/P SYNC (G) 2
R/P SYNC (Y) 3
89
CN267
ERS VIDEO (X) 1
ERS VIDEO (G) 2
ERS VIDEO (Y) 3
86
CN263
ERS SYNC (X) 1
ERS SYNC (G) 2
ERS SYNC (Y) 3
84
FOR BVH-3000/3000PS
FROM RP-32 BOARD

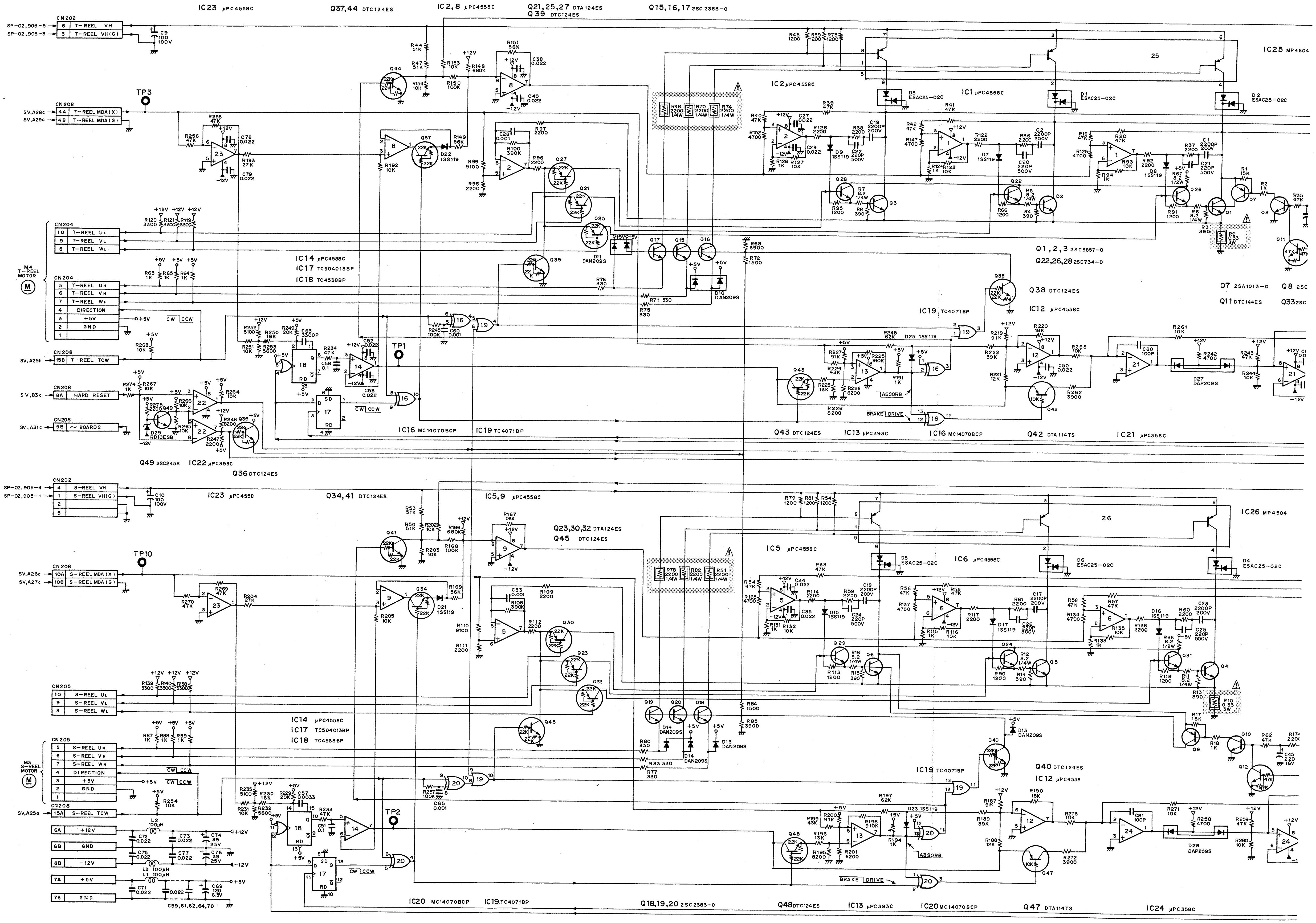
HEAD DRUM ASSY; DMH-33A-R (BVH-3000)
DMH-34A-R (BVH-3000PS)
DMH-35A-R (BVH-3100)
DMH-36A-R (BVH-3100PS)
UPPER DRUM ASSY; DMR-33-R (BVH-3000)
DMR-34-R (BVH-3000PS)
DMR-35-R (BVH-3100)
DMR-36-R (BVH-3100PS)

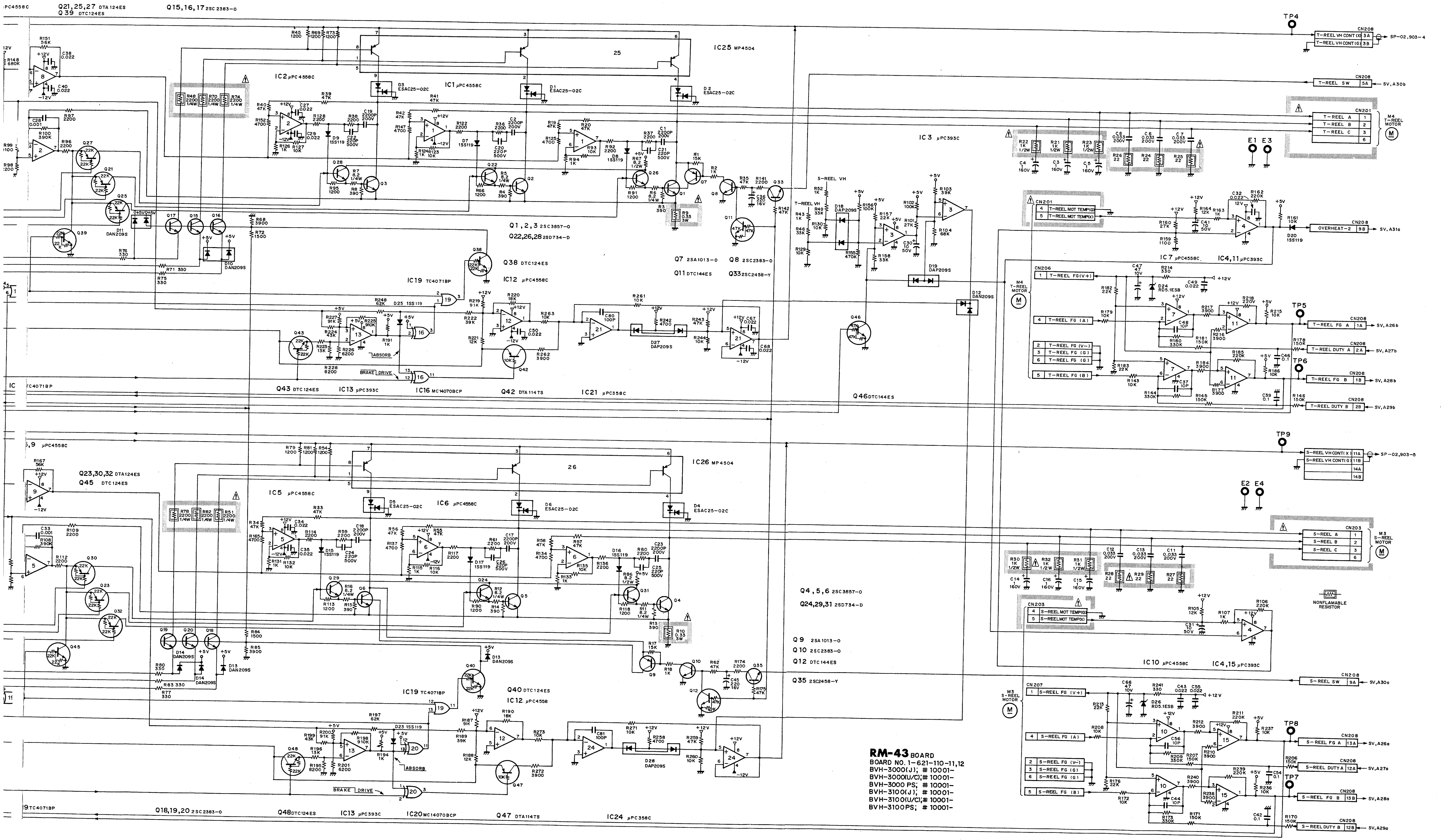
HEAD DRUM

BVH-3000(J)	;#10001-
BVH-3000(U/C)	;#10001-
BVH-3000PS	;#10001-
BVH-3100(J)	;#10001-
BVH-3100(U/C)	;#10001-
BVH-3100PS	;#10001-

RM-43 BOARD

Reel Motor Driver

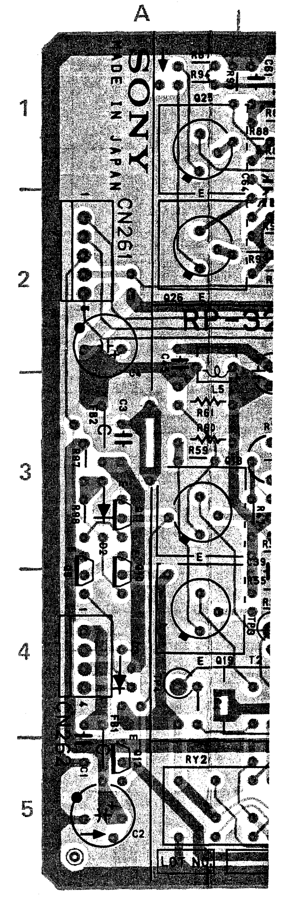

IC23 μPC4558C
Q37,44 DTC124ES
IC2,8 μPC4558C
Q21,25,27 DTA124ES
Q39 DTC124ES
Q15,16,17 2SC2383-O
IC25 MP4504
CN202
T-REEL VH
T-REEL VH(G)
SP-02,905-5
SP-02,905-3
TP3
CN208
T-REEL MDA(X)
T-REEL MDA(G)
SV,A28c
SV,A29c
IC2 μPC4558C
IC1 μPC4558C
D3 ESAC25-02C
D1 ESAC25-02C
D2 ESAC25-02C
CN204
T-REEL UL
T-REEL VL
T-REEL WL
M4 T-REEL MOTOR
T-REEL UH
T-REEL VH
T-REEL WH
DIRECTION
+5V
GND
CW CCW
T-REEL TCW
SV,A25b
IC14 μPC4558C
IC17 TC5040I3BP
IC18 TC4538BP
Q1,2,3 2SC3857-O
Q22,26,28 2SD734-D
Q7 2SA1013-O
Q11 DTC144ES
Q38 DTC124ES
IC19 TC4071BP
IC12 μPC4558C
TP1
HARD RESET
SV,B3c
~ BOARD2
SV,A31c
ABSORB
BRAKE DRIVE
IC16 MC14070BCP
IC19 TC4071BP
Q43 DTC124ES
IC13 μPC393C
IC16 MC14070BCP
Q42 DTA114TS
IC21 μPC358C
Q49 2SC2458
IC22 μPC393C
Q36 DTC124ES
S-REEL VH
S-REEL VH(G)
SP-02,905-4
SP-02,905-1
IC23 μPC4558
Q34,41 DTC124ES
IC5,9 μPC4558C
Q23,30,32 DTA124ES
Q45 DTC124ES
IC26 MP4504
TP10
S-REEL MDA(X)
S-REEL MDA(G)
SV,A26c
SV,A27c
IC5 μPC4558C
IC6 μPC4558C
D5 ESAC25-02C
D6 ESAC25-02C
D4 ESAC25-02C
CN205
S-REEL UL
S-REEL VL
S-REEL WL
S-REEL UH
S-REEL VH
S-REEL WH
M3 S-REEL MOTOR
S-REEL TCW
SV,A25a
IC14 μPC4558C
IC17 TC5040I3BP
IC18 TC4538BP
IC19 TC4071BP
Q40 DTC124ES
IC12 μPC4558
TP2
+12V
GND
-12V
+5V
C59,61,62,64,70
IC20 MC14070BCP
IC19 TC4071BP
Q18,19,20 2SC2383-O
Q48 DTC124ES
IC13 μPC393C
IC20 MC14070BCP
Q47 DTA114TS
IC24 μPC358C


Q21,25,27 DTA124ES
Q39 DTC124ES
Q15,16,17 2SC2383-0
IC25 MP4504
IC2 μPC4558C
IC1 μPC4558C
D3 ESAC25-02C
D1 ESAC25-02C
D2 ESAC25-02C
IC3 μPC393C
Q1,2,3 2SC3857-0
Q22,26,28 2SD734-D
Q7 2SA1013-0
Q8 2SC2383-0
Q11 DTC144ES
Q33 2SC2458-Y
Q38 DTC124ES
IC12 μPC4558C
IC19 TC4071BP
Q43 DTC124ES
IC13 μPC393C
IC16 MC14070BCP
Q42 DTA114TS
IC21 μPC358C
Q46 DTC144ES
TP4
T-REEL VH CONT(X)
T-REEL VH CONT(G)
CN208
SP-02,903-4
T-REEL SW
SV,A30b
CN201
T-REEL A
T-REEL B
T-REEL C
M4 T-REEL MOTOR
E1
E3
S-REEL VH
T-REEL VH
CN201
T-REEL MOT TEMP(G)
T-REEL MOT TEMP(X)
OVERHEAT-2
SV,A31a
IC7 μPC4558C
IC4,11 μPC393C
CN206
T-REEL FG(V+)
T-REEL FG (A)
T-REEL FG (V-)
T-REEL FG (G)
T-REEL FG (B)
TP5
T-REEL FG A
SV,A26b
T-REEL DUTY A
SV,A27b
TP6
T-REEL FG B
SV,A28b
T-REEL DUTY B
SV,A29b
ABSORB
BRAKE DRIVE
Q23,30,32 DTA124ES
Q45 DTC124ES
IC26 MP4504
IC5 μPC4558C
IC6 μPC4558C
D5 ESAC25-02C
D6 ESAC25-02C
D4 ESAC25-02C
Q4,5,6 2SC3857-0
Q24,29,31 2SD734-D
Q9 2SA1013-0
Q10 2SC2383-0
Q12 DTC144ES
Q35 2SC2458-Y
Q40 DTC124ES
IC12 μPC4558
IC19 TC4071BP
Q18,19,20 2SC2383-0
Q48 DTC124ES
IC13 μPC393C
IC20 MC14070BCP
Q47 DTA114TS
IC24 μPC358C
TP9
S-REEL VH CONT(X)
S-REEL VH CONT(G)
SP-02,903-5
E2
E4
CN203
S-REEL A
S-REEL B
S-REEL C
M3 S-REEL MOTOR
NONFLAMABLE RESISTOR
S-REEL MOT TEMP(G)
S-REEL MOT TEMP(X)
IC10 μPC4558C
IC4,15 μPC393C
S-REEL SW
SV,A30a
CN207
S-REEL FG (V+)
S-REEL FG (A)
S-REEL FG (V-)
S-REEL FG (G)
S-REEL FG (B)
TP8
S-REEL FG A
SV,A26a
S-REEL DUTY A
SV,A27a
TP7
S-REEL FG B
SV,A28a
S-REEL DUTY B
SV,A29a

RM-43 BOARD
BOARD NO. 1-621-110-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000 PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

RP-32 **BOARD** (1-621-124-11)

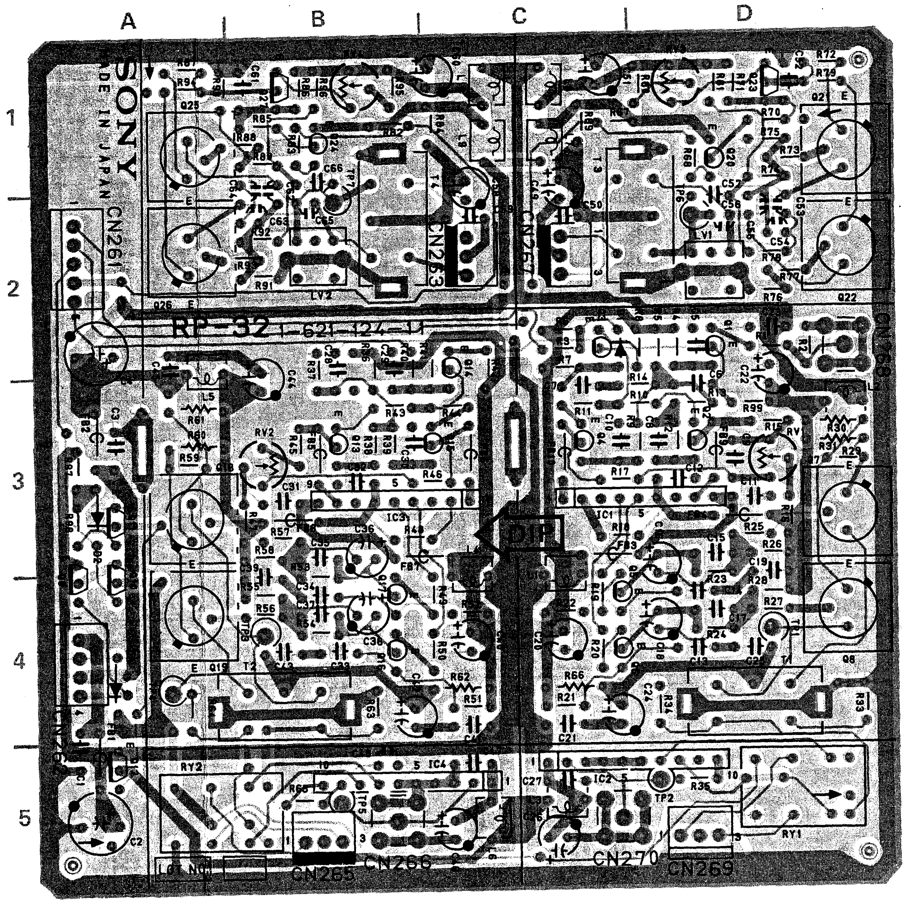
Component Side


A
1
2
3
4
5
SONY
ADE IN JAPAN
CN261
RY21

1-621-124-11 COMPO

RP-32 BOARD (1-621-124-11)

Component Side


A
B
C
D
1
2
3
4
5
SONY
MADE IN JAPAN
RP-32 1-621-124-11
CN261
CN262
CN263
CN265
CN266
CN267
CN268
CN269
CN270
IC1
IC2
IC3
IC4
RY1
RY2
LV2
TP2
TP5

1-621-124-11 COMPONENT SIDE

1-621-124-11 SOLDER SIDE

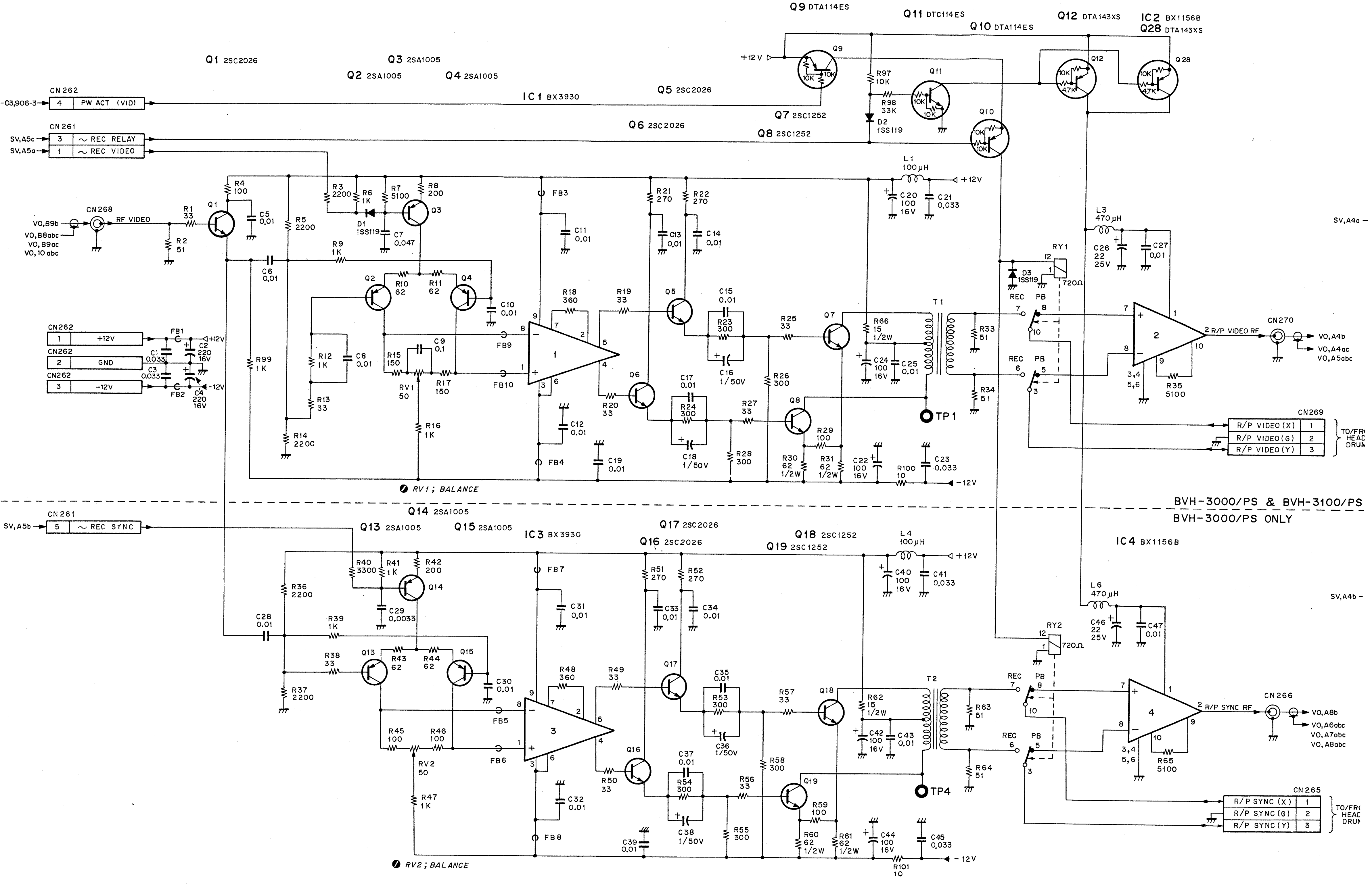
RP-32 (1-621-124-11)

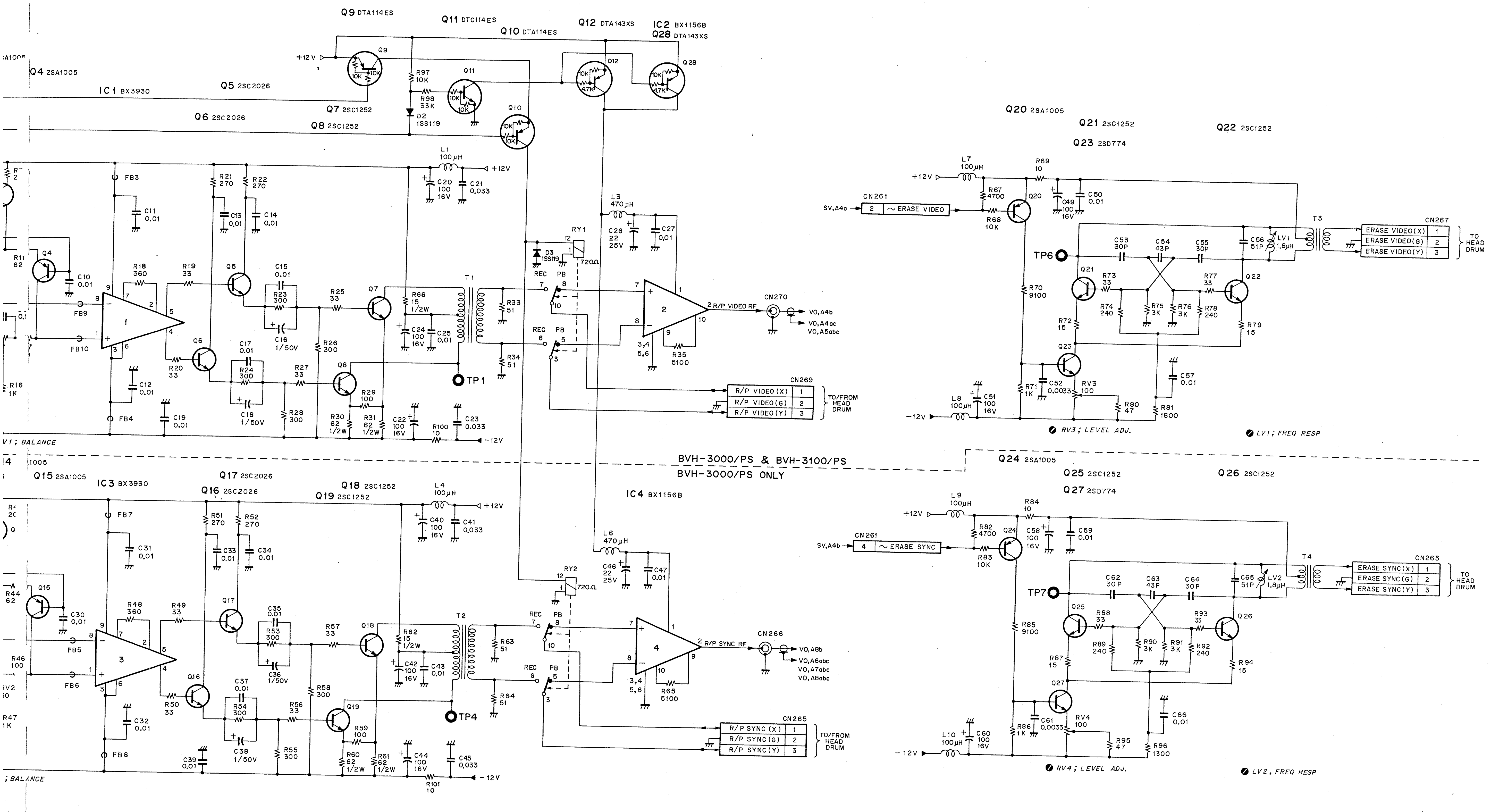
BVH-3000/PS
BVH-3100/PS

CN261	A2
CN262	A4
CN263	C2
CN265	B5
CN266	B5
CN267	C2
CN268	D2
CN269	D5
CN270	C5
D1	C2
D2	A3
D3	A4
FB1	A5
FB2	A3
FB3	C3
FB4	D3
FB5	B3
FB6	C3
FB7	B3
FB8	B3
FB9	D3
FB10	C3
IC1	C3
IC2	C5
IC3	B3
IC4	B5
LV1	D2
LV2	B2
Q1	D2
Q2	D3
Q3	C2
Q4	C3
Q5	C4
Q6	C4
Q7	D3
Q8	D4
Q9	A3
Q10	A3
Q11	A3
Q12	A5
Q13	B3
Q14	C2
Q15	B3
Q16	B4
Q17	B4
Q18	A3
Q19	A4
Q20	D1
Q21	D1
Q22	D2
Q23	D1
Q24	B1
Q25	A1
Q26	A2
Q27	B1
RV1	D3
RV2	B3
RV3	D1
RV4	B1
RY1	D5
RY2	A5
T1	D4
T2	B4
T3	C1
T4	B1
TP1	D4
TP4	A4
TP6	D2
TP7	B1

RP-32 BOARD

Video/Sync R/P Amplifier

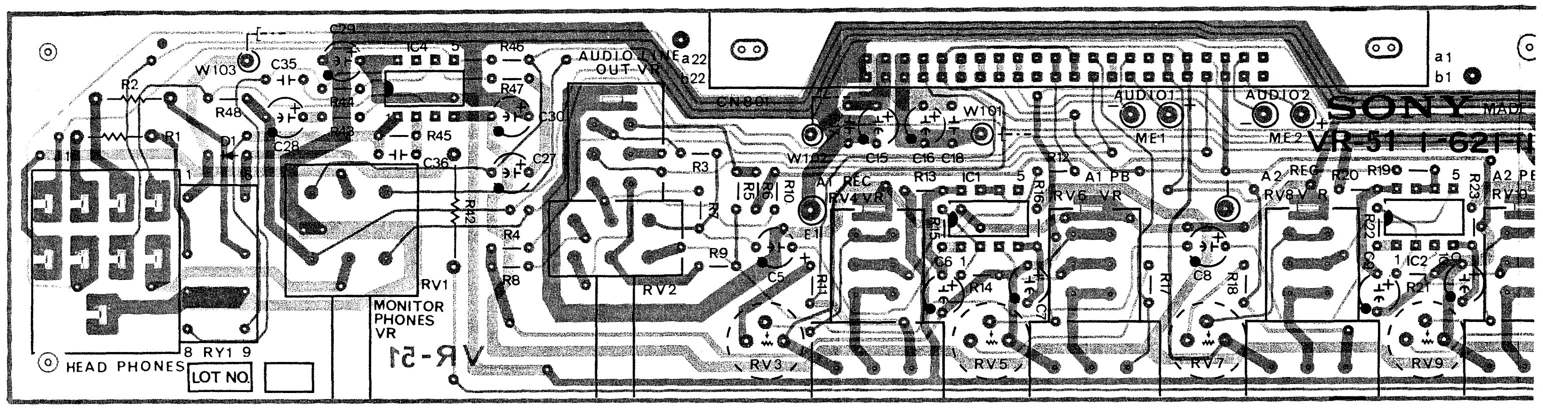

Q1 2SC2026
Q2 2SA1005
Q3 2SA1005
Q4 2SA1005
IC1 BX3930
Q5 2SC2026
Q6 2SC2026
Q7 2SC1252
Q8 2SC1252
Q9 DTA114ES
Q10 DTA114ES
Q11 DTC114ES
Q12 DTA143XS
IC2 BX1156B
Q28 DTA143XS
CN262
SP-03,906-3
4 PW ACT (VID)
CN261
SV,A5c
3 ~ REC RELAY
SV,A5a
1 ~ REC VIDEO
+12V
R97 10K
R98 33K
D2 1SS119
CN268
VO,B9b
VO,B8abc
VO,B9ac
VO,10abc
RF VIDEO
R1 33
R2 51
R4 100
C5 0.01
R5 2200
R3 2200
R6 1K
D1 1SS119
R7 5100
R8 200
C7 0.047
R9 1K
C6 0.01
R10 62
R11 62
C10 0.01
R12 1K
C8 0.01
R13 33
R14 2200
R15 150
C9 0.1
RV1 50
R16 1K
R17 150
R99 1K
FB1
FB2
C1 0.033
C2 220 16V
C3 0.033
C4 220 16V
1 +12V
2 GND
3 -12V
FB3
C11 0.01
FB9
FB10
FB4
R18 360
R19 33
R20 33
C12 0.01
C19 0.01
R21 270
R22 270
C13 0.01
C14 0.01
C15 0.01
R23 300
C16 1/50V
C17 0.01
R24 300
C18 1/50V
R25 33
R26 300
R27 33
R28 300
R29 100
R30 62 1/2W
R31 62 1/2W
C22 100 16V
R100 10
C23 0.033
-12V
L1 100μH
C20 100 16V
C21 0.033
R66 15 1/2W
C24 100 16V
C25 0.01
T1
TP1
R33 51
R34 51
RY1
D3 1SS119
720Ω
REC PB
L3 470μH
C26 22 25V
C27 0.01
R35 5100
3,4 5,6
2 R/P VIDEO RF
CN270
VO,A4b
VO,A4ac
VO,A5abc
SV,A4a
CN269
R/P VIDEO (X) 1
R/P VIDEO (G) 2
R/P VIDEO (Y) 3
TO/FR HEAD DRUM
RV1; BALANCE
BVH-3000/PS & BVH-3100/PS
BVH-3000/PS ONLY
CN261
SV,A5b
5 ~ REC SYNC
Q13 2SA1005
Q14 2SA1005
Q15 2SA1005
IC3 BX3930
Q16 2SC2026
Q17 2SC2026
Q18 2SC1252
Q19 2SC1252
IC4 BX1156B
R36 2200
R40 3300
R41 1K
R42 200
C29 0.0033
C28 0.01
R39 1K
R38 33
R43 62
R44 62
C30 0.01
R37 2200
R45 100
R46 100
RV2 50
R47 1K
FB7
C31 0.01
FB5
FB6
FB8
R48 360
R49 33
R50 33
C32 0.01
C39 0.01
R51 270
R52 270
C33 0.01
C34 0.01
C35 0.01
R53 300
C36 1/50V
C37 0.01
R54 300
C38 1/50V
R55 300
R56 33
R57 33
R58 300
R59 100
R60 62 1/2W
R61 62 1/2W
C44 100 16V
C45 0.033
R101 10
L4 100μH
C40 100 16V
C41 0.033
R62 15 1/2W
C42 100 16V
C43 0.01
T2
TP4
R63 51
R64 51
RY2
720Ω
L6 470μH
C46 22 25V
C47 0.01
R65 5100
2 R/P SYNC RF
CN266
VO,A8b
VO,A6abc
VO,A7abc
VO,A8abc
SV,A4b
CN265
R/P SYNC (X) 1
R/P SYNC (G) 2
R/P SYNC (Y) 3
TO/FR HEAD DRUM
RV2; BALANCE


Q9 DTA114ES
Q11 DTC114ES
Q10 DTA114ES
Q12 DTA143XS
IC2 BX1156B
Q28 DTA143XS
Q4 2SA1005
IC1 BX3930
Q5 2SC2026
Q6 2SC2026
Q7 2SC1252
Q8 2SC1252
Q20 2SA1005
Q21 2SC1252
Q23 2SD774
Q22 2SC1252
TP1
TP6
T1
RY1
RY2
REC
PB
R/P VIDEO RF
CN270
VO,A4b
VO,A4ac
VO,A5abc
CN269
R/P VIDEO (X) 1
R/P VIDEO (G) 2
R/P VIDEO (Y) 3
TO/FROM HEAD DRUM
CN261
SV,A4a
2 ~ ERASE VIDEO
T3
CN267
ERASE VIDEO (X) 1
ERASE VIDEO (G) 2
ERASE VIDEO (Y) 3
TO HEAD DRUM
RV3; LEVEL ADJ.
LV1; FREQ RESP
V1; BALANCE
BVH-3000/PS & BVH-3100/PS
BVH-3000/PS ONLY
Q15 2SA1005
IC3 BX3930
Q17 2SC2026
Q16 2SC2026
Q18 2SC1252
Q19 2SC1252
IC4 BX1156B
TP4
T2
R/P SYNC RF
CN266
VO,A8b
VO,A6abc
VO,A7abc
VO,A8abc
CN265
R/P SYNC (X) 1
R/P SYNC (G) 2
R/P SYNC (Y) 3
TO/FROM HEAD DRUM
Q24 2SA1005
Q25 2SC1252
Q27 2SD774
Q26 2SC1252
SV,A4b
CN 261
4 ~ ERASE SYNC
TP7
T4
CN263
ERASE SYNC (X) 1
ERASE SYNC (G) 2
ERASE SYNC (Y) 3
TO HEAD DRUM
RV4; LEVEL ADJ.
LV2, FREQ RESP
; BALANCE
+12V
-12V

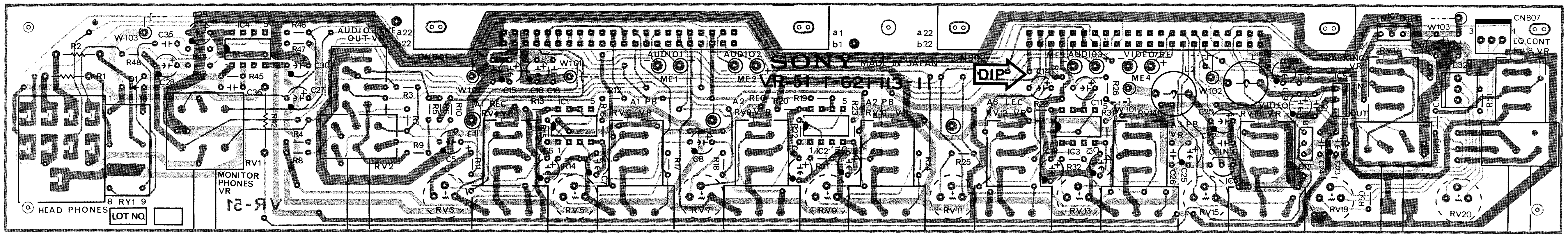
RP-32 BOARD
BOARD NO. 1-621-124-11
BVH-3000(J) ;#10001-
BVH-3000(U/C) ;#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C) ;#10001-
BVH-3100PS ;#10001-

VR-51 BOARD (1-621-113-11)

Component Side


HEAD PHONES
8 RY1 9
LOT NO.
W103
C35
C29
IC4
R46
R47
R48
R44
R43
R45
C28
C36
C30
C27
R2
R1
D1
R42
RV1
MONITOR
PHONES
VR
VR-51
AUDIO LINE
OUT VR
a22
b22
CN801
R3
R4
R8
R9
RV2
R5
R6
R10
R7
E1
C5
R11
RV3
W102
C15
C16
C18
W101
A1 REC
RV4 VR
R13
IC1
R12
R15
R16
C6
R14
C7
RV5
A1 PB
RV6 VR
R17
C8
R18
RV7
AUDIO1
ME1
AUDIO2
ME2
SONY
VR-51 1-621
MADE
a1
b1
A2 REC
RV8 VR
R20
R19
R22
R23
IC2
C9
R21
RV9
A2 PB
RV10

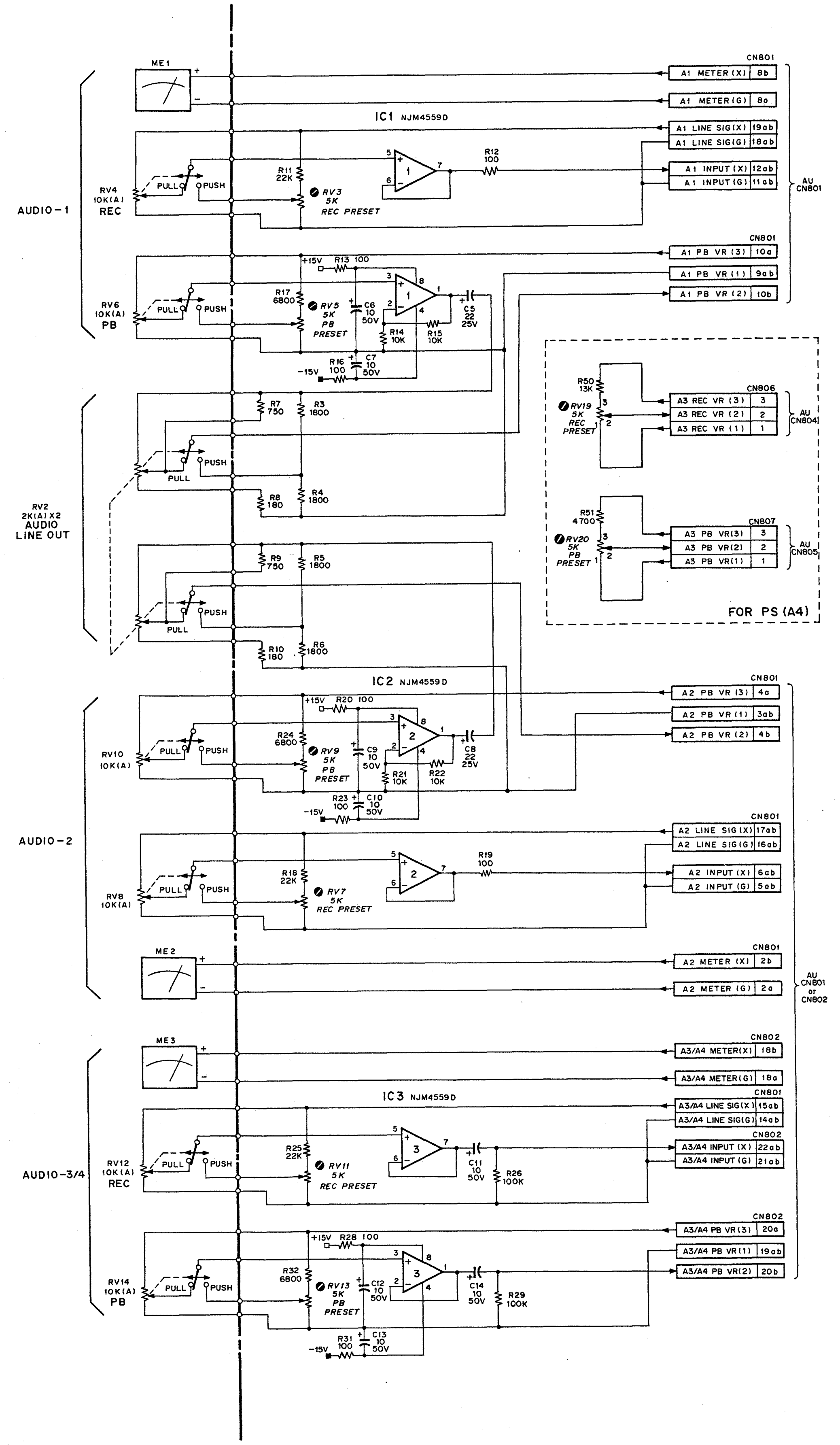
1 621-113-11 COMPONENT SIDE

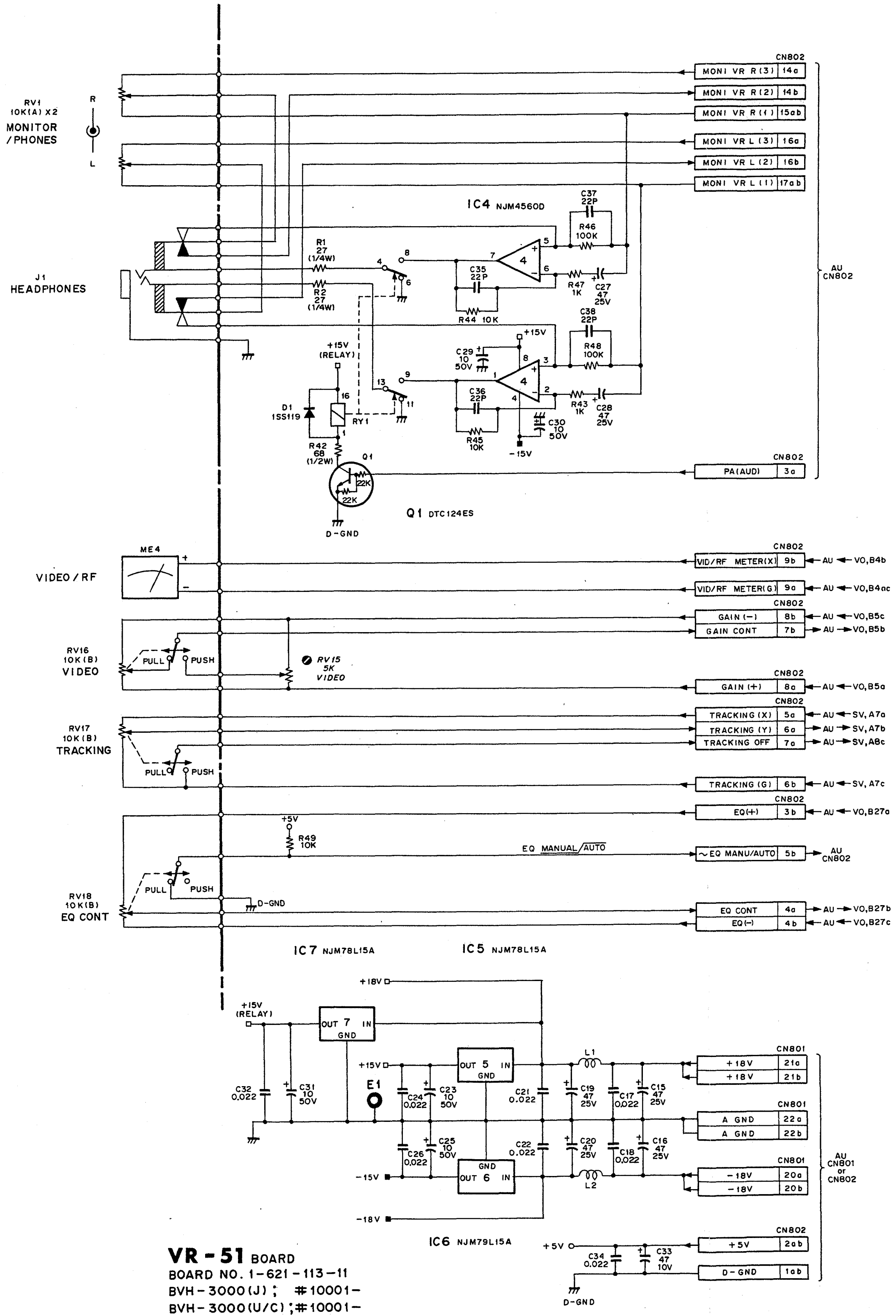

HEAD PHONES
RY1
LOT NO.
MONITOR PHONES VR
RV1
RV2
VR-51
AUDIO LINE OUT VR
W103
C35
IC4
CN801
W102
W101
AUDIO1
AUDIO2
ME1
ME2
SONY
MADE IN JAPAN
VR-51 1-621-113-11
a1
b1
a22
b22
CN802
DIP
ME3
AUDIO3
VIDEO/RF
ME4
TRACKING VR
IN
OUT
CN807
EQ CONT RV18 VR
A1 REC RV4 VR
A1 PB RV6 VR
A2 REC RV8 VR
A2 PB RV10 VR
A3 REC RV12 VR
A3 PB VR
RV14
VIDEO RV16 VR
RV17
IC1
IC2
IC3
RV3
RV5
RV7
RV9
RV11
RV13
RV15
RV19
RV20

1-621-113-11 COMPONENT SIDE

1-621-113-11 SOLDER SIDE

VR-51 BOARD
Meter/VR

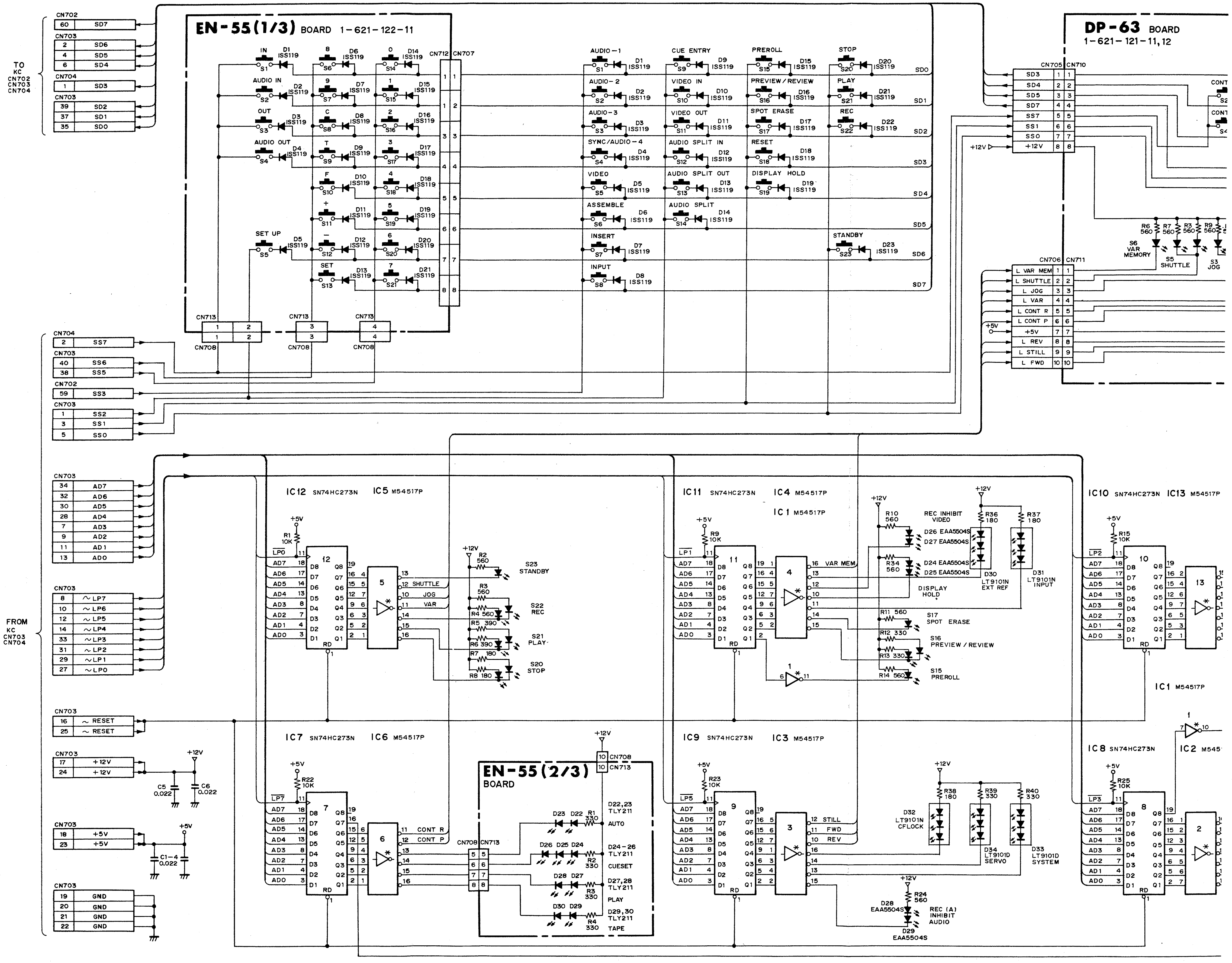

ME1
CN801
A1 METER (X) 8b
A1 METER (G) 8a
IC1 NJM4559D
A1 LINE SIG (X) 19ab
A1 LINE SIG (G) 18ab
A1 INPUT (X) 12ab
A1 INPUT (G) 11ab
AU CN801
R12 100
R11 22K
RV3 5K REC PRESET
RV4 10K(A) REC
AUDIO-1
PULL
PUSH
A1 PB VR (3) 10a
A1 PB VR (1) 9ab
A1 PB VR (2) 10b
R13 100
R17 6800
RV5 5K PB PRESET
C6 10 50V
R14 10K
R15 10K
C5 22 25V
R16 100
C7 10 50V
+15V
-15V
RV6 10K(A) PB
R7 750
R3 1800
R8 180
R4 1800
RV2 2K(A) X2 AUDIO LINE OUT
R9 750
R5 1800
R10 180
R6 1800
R50 13K
RV19 5K REC PRESET
CN806
A3 REC VR (3) 3
A3 REC VR (2) 2
A3 REC VR (1) 1
AU CN804
R51 4700
RV20 5K PB PRESET
CN807
A3 PB VR(3) 3
A3 PB VR(2) 2
A3 PB VR(1) 1
AU CN805
FOR PS (A4)
IC2 NJM4559D
A2 PB VR (3) 4a
A2 PB VR (1) 3ab
A2 PB VR (2) 4b
R20 100
R24 6800
RV9 5K PB PRESET
C9 10 50V
R21 10K
R22 10K
C8 22 25V
R23 100
C10 10 50V
RV10 10K(A)
AUDIO-2
A2 LINE SIG (X) 17ab
A2 LINE SIG (G) 16ab
A2 INPUT (X) 6ab
A2 INPUT (G) 5ab
R19 100
R18 22K
RV7 5K REC PRESET
RV8 10K(A)
ME2
A2 METER (X) 2b
A2 METER (G) 2a
AU CN801 or CN802
ME3
CN802
A3/A4 METER(X) 18b
A3/A4 METER(G) 18a
IC3 NJM4559D
A3/A4 LINE SIG(X) 15ab
A3/A4 LINE SIG(G) 14ab
A3/A4 INPUT (X) 22ab
A3/A4 INPUT (G) 21ab
R25 22K
RV11 5K REC PRESET
C11 10 50V
R26 100K
RV12 10K(A) REC
AUDIO-3/4
A3/A4 PB VR(3) 20a
A3/A4 PB VR(1) 19ab
A3/A4 PB VR(2) 20b
R28 100
R32 6800
RV13 5K PB PRESET
C12 10 50V
C14 10 50V
R29 100K
R31 100
C13 10 50V
RV14 10K(A) PB

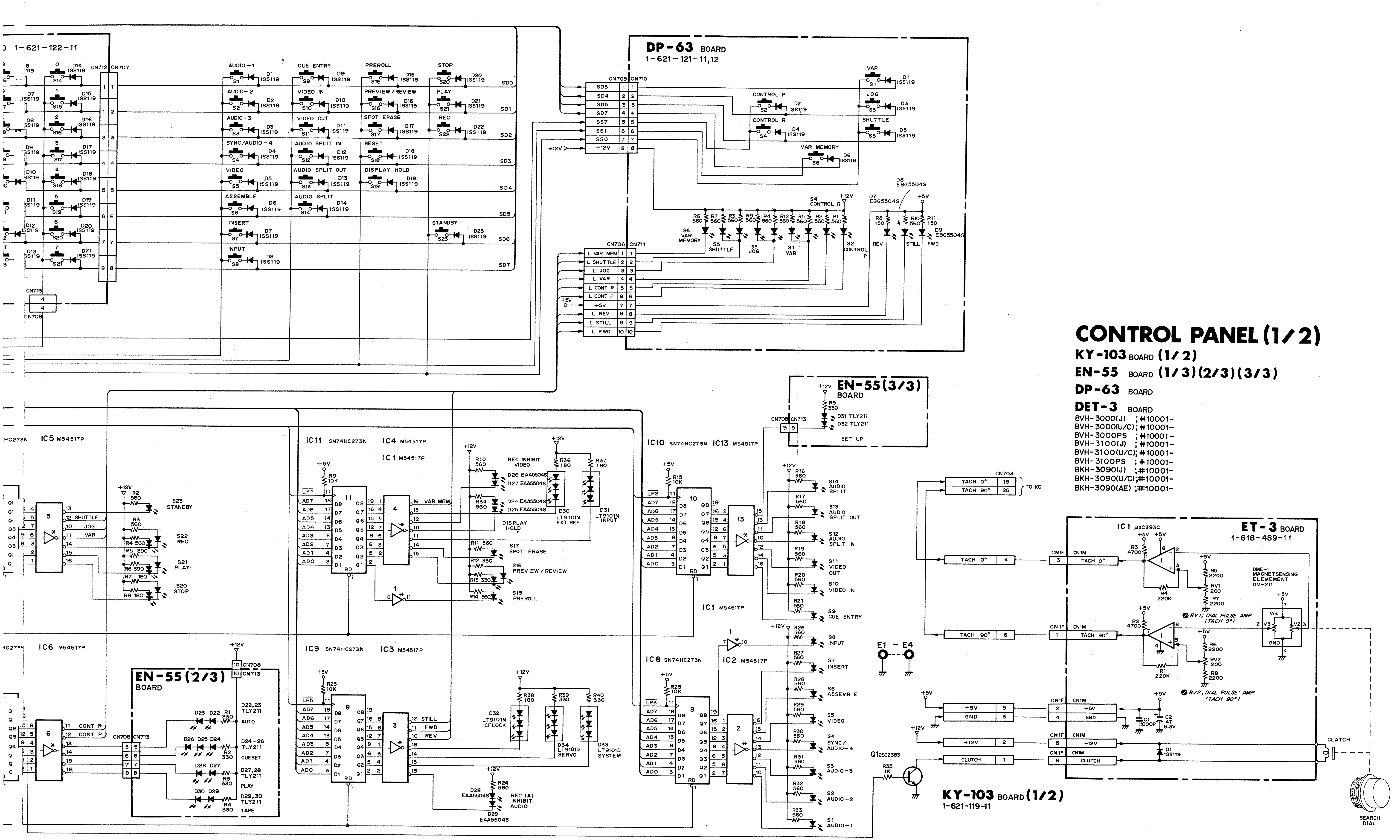

CN802
MONI VR R (3) 14a
MONI VR R (2) 14b
MONI VR R (1) 15ab
MONI VR L (3) 16a
MONI VR L (2) 16b
MONI VR L (1) 17ab
RV1 10K(A) X2 MONITOR / PHONES
R
L
IC4 NJM4560D
C37 22P
R46 100K
C35 22P
R47 1K
C27 47 25V
R44 10K
C38 22P
R48 100K
AU CN802
J1 HEADPHONES
R1 27 (1/4W)
R2 27 (1/4W)
+15V (RELAY)
C29 10 50V
C36 22P
R43 1K
C28 47 25V
C30 10 50V
R45 10K
D1 1SS119
RY1
R42 68 (1/2W)
Q1
22K
D-GND
Q1 DTC124ES
PA(AUD) 3a
ME4
VIDEO / RF
VID/RF METER(X) 9b
VID/RF METER(G) 9a
AU ← VO,B4b
AU ← VO,B4ac
GAIN (−) 8b
GAIN CONT 7b
AU → VO,B5c
AU → VO,B5b
RV16 10K(B) VIDEO
RV15 5K VIDEO
GAIN (+) 8a
AU ← VO,B5a
TRACKING (X) 5a
TRACKING (Y) 6a
TRACKING OFF 7a
AU ← SV,A7a
AU ← SV,A7b
AU → SV,A8c
RV17 10K(B) TRACKING
TRACKING (G) 6b
AU ← SV,A7c
EQ(+) 3b
AU ← VO,B27a
+5V
R49 10K
EQ MANUAL/AUTO
EQ MANU/AUTO 5b
RV18 10K(B) EQ CONT
EQ CONT 4a
EQ(−) 4b
AU → VO,B27b
AU ← VO,B27c
IC7 NJM78L15A
IC5 NJM78L15A
+18V
+15V (RELAY)
OUT 7 IN GND
C32 0.022
C31 10 50V
E1
+15V
OUT 5 IN GND
C24 0.022
C23 10 50V
C21 0.022
L1
C19 47 25V
C17 0.022
C15 47 25V
CN801
+18V 21a
+18V 21b
A GND 22a
A GND 22b
C26 0.022
C25 10 50V
C22 0.022
C20 47 25V
C18 0.022
C16 47 25V
-15V
GND OUT 6 IN
L2
-18V 20a
-18V 20b
AU CN801 or CN802
-18V
IC6 NJM79L15A
+5V
C34 0.022
C33 47 10V
+5V 2ab
D-GND 1ab
D-GND

VR-51 BOARD
BOARD NO. 1-621-113-11
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

FUNCTION CONTROL PANEL(1/2)

DET-3 BOARD : Search Dial Amplifier
DP-63 BOARD : Sub Key
EN-55 BOARD : Entry Key
KY-103 BOARD : Main Key


EN-55(1/3) BOARD 1-621-122-11
EN-55(2/3) BOARD
DP-63 BOARD 1-621-121-11,12
TO KC CN702 CN703 CN704
FROM KC CN703 CN704
CN702 CN703 CN704 CN705 CN706 CN707 CN708 CN710 CN711 CN712 CN713
SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7
SS0 SS1 SS2 SS3 SS5 SS6 SS7
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7
~LP0 ~LP1 ~LP2 ~LP3 ~LP4 ~LP5 ~LP6 ~LP7
~RESET
+12V +5V GND
IN OUT AUDIO IN AUDIO OUT SET UP SET
AUDIO-1 AUDIO-2 AUDIO-3 SYNC/AUDIO-4 VIDEO ASSEMBLE INSERT INPUT
CUE ENTRY VIDEO IN VIDEO OUT AUDIO SPLIT IN AUDIO SPLIT OUT AUDIO SPLIT
PREROLL PREVIEW/REVIEW SPOT ERASE RESET DISPLAY HOLD
STOP PLAY REC STANDBY
L VAR MEM L SHUTTLE L JOG L VAR L CONT R L CONT P L REV L STILL L FWD
S6 VAR MEMORY S5 SHUTTLE S3 JOG
IC12 SN74HC273N IC5 M54517P
IC11 SN74HC273N IC4 M54517P IC1 M54517P
IC10 SN74HC273N IC13 M54517P
IC7 SN74HC273N IC6 M54517P
IC9 SN74HC273N IC3 M54517P
IC8 SN74HC273N IC2 M545
ISS119
S23 STANDBY S22 REC S21 PLAY S20 STOP
REC INHIBIT VIDEO D26 EAA5504S D27 EAA5504S D24 EAA5504S D25 EAA5504S
D30 LT9101N EXT REF D31 LT9101N INPUT
DISPLAY HOLD S17 SPOT ERASE S16 PREVIEW/REVIEW S15 PREROLL
D22,23 TLY211 AUTO D24-26 TLY211 CUESET D27,28 TLY211 PLAY D29,30 TLY211 TAPE
D32 LT9101N CFLOCK D34 LT9101D SERVO D33 LT9101D SYSTEM
D28 EAA5504S D29 EAA5504S REC (A) INHIBIT AUDIO
STILL FWD REV CONT R CONT P SHUTTLE JOG VAR VAR MEM
C5 0.022 C6 0.022 C1-4 0.022


1-621-122-11
CN712
CN707
AUDIO-1
AUDIO-2
AUDIO-3
SYNC/AUDIO-4
VIDEO
ASSEMBLE
INSERT
INPUT
CUE ENTRY
VIDEO IN
VIDEO OUT
AUDIO SPLIT IN
AUDIO SPLIT OUT
AUDIO SPLIT
PREROLL
PREVIEW/REVIEW
SPOT ERASE
RESET
DISPLAY HOLD
STOP
PLAY
REC
STANDBY
ISS119
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
CN713
CN708
DP-63 BOARD
1-621-121-11,12
CN705
CN710
CN706
CN711
VAR
JOG
SHUTTLE
CONTROL P
CONTROL R
VAR MEMORY
EBG5504S
REV
STILL
FWD
L VAR MEM
L SHUTTLE
L JOG
L VAR
L CONT R
L CONT P
L REV
L STILL
L FWD
+12V
+5V
EN-55(3/3) BOARD
D31 TLY211
D32 TLY211
SET UP
IC5 M54517P
IC6 M54517P
IC11 SN74HC273N
IC4 M54517P
IC1 M54517P
IC9 SN74HC273N
IC3 M54517P
IC10 SN74HC273N
IC13 M54517P
IC8 SN74HC273N
IC2 M54517P
EN-55(2/3) BOARD
CN708
CN713
D22,23 TLY211
AUTO
D24-26 TLY211
CUESET
D27,28 TLY211
PLAY
D29,30 TLY211
TAPE
S23 STANDBY
S22 REC
S21 PLAY
S20 STOP
SHUTTLE
JOG
VAR
CONT R
CONT P
VAR MEM
REC INHIBIT VIDEO
D26 EAA5504S
D27 EAA5504S
D24 EAA5504S
D25 EAA5504S
D30 LT9101N EXT REF
D31 LT9101N INPUT
DISPLAY HOLD
S17 SPOT ERASE
S16 PREVIEW/REVIEW
S15 PREROLL
STILL
FWD
REV
D32 LT9101N CFLOCK
D34 LT9101D SERVO
D33 LT9101D SYSTEM
D28 EAA5504S
D29 EAA5504S
REC (A) INHIBIT AUDIO
S14 AUDIO SPLIT
S13 AUDIO SPLIT OUT
S12 AUDIO SPLIT IN
S11 VIDEO OUT
S10 VIDEO IN
S9 CUE ENTRY
S8 INPUT
S7 INSERT
S6 ASSEMBLE
S5 VIDEO
S4 SYNC/AUDIO-4
S3 AUDIO-3
S2 AUDIO-2
S1 AUDIO-1
E1 - E4
Q1 2SC2383
R35 1K
CN703
TACH 0°
TACH 90°
TO KC
IC1 μPC393C
ET-3 BOARD
1-618-489-11
DME-1 MAGNETSENSING ELEMENT DM-211
RV1, DIAL PULSE AMP (TACH 0°)
RV2, DIAL PULSE AMP (TACH 90°)
CN1F
CN1M
GND
CLUTCH
D1 1SS119
SEARCH DIAL

CONTROL PANEL (1/2)

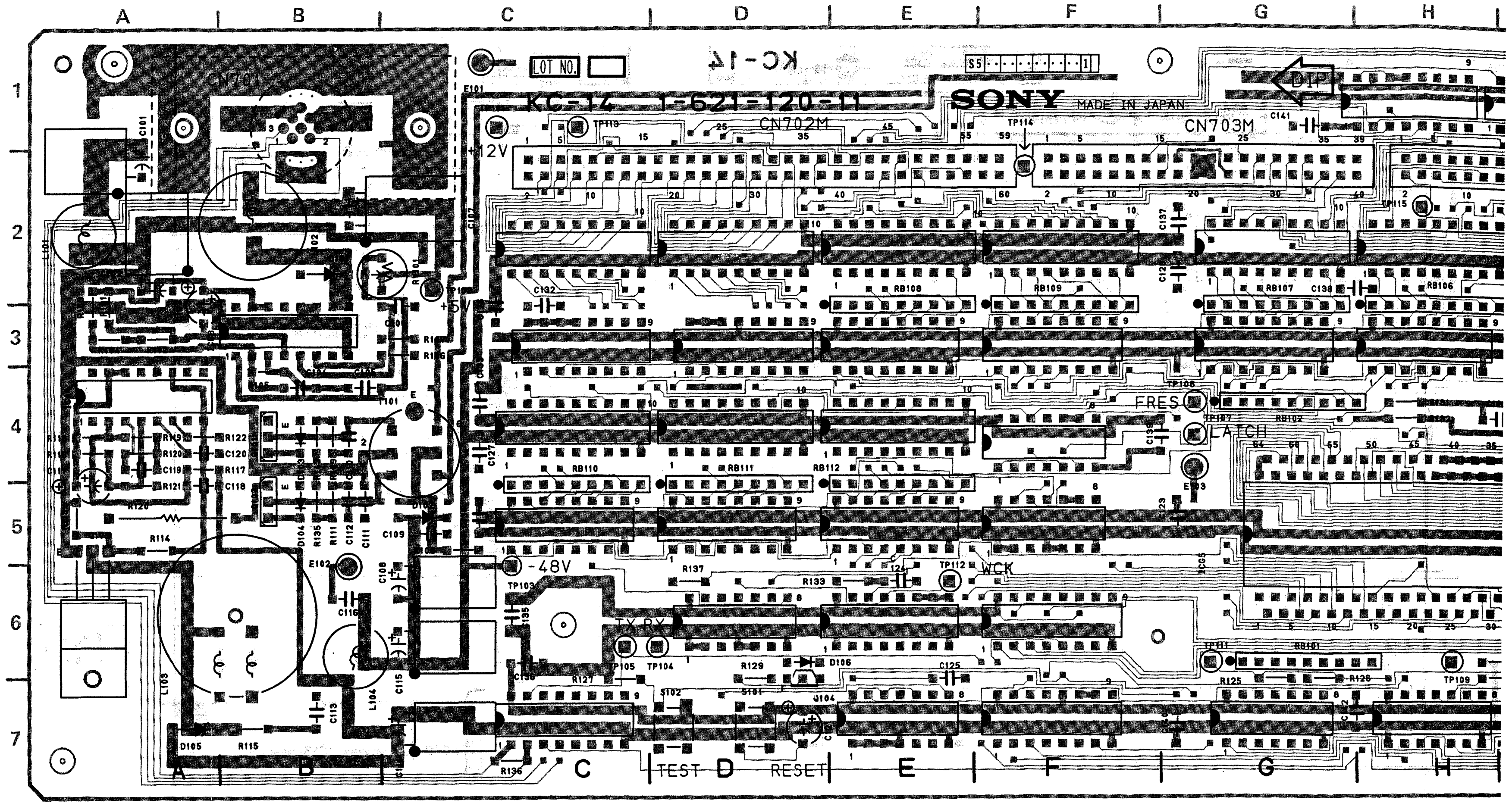
KY-103 BOARD (1/2)
EN-55 BOARD (1/3)(2/3)(3/3)
DP-63 BOARD
DET-3 BOARD

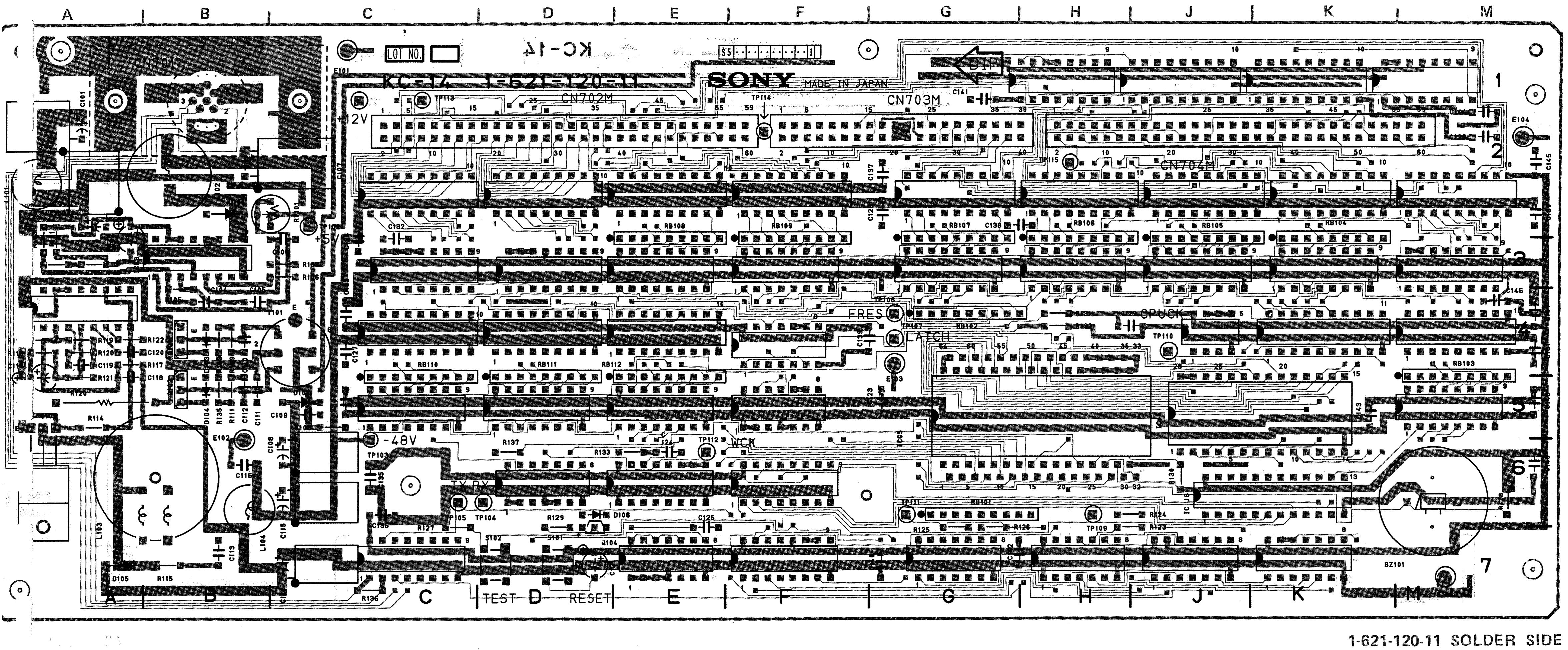
BVH-3000(J)	;#10001-
BVH-3000(U/C)	;#10001-
BVH-3000PS	;#10001-
BVH-3100(J)	;#10001-
BVH-3100(U/C)	;#10001-
BVH-3100PS	;#10001-
BKH-3090(J)	;#10001-
BKH-3090(U/C)	;#10001-
BKH-3090(AE)	;#10001-

KY-103 BOARD (1/2)
1-621-119-11

KC-14 BOARD (1-621-120-11)

Component Side


A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
CN701
LOT NO.
KC-14
KC-14 1-621-120-11
SONY MADE IN JAPAN
DIP
CN702M
CN703M
+12V
+5V
-48V
FRES
LATCH
WCK
TX
RX
TEST
RESET
E101
E102
E103
TP103
TP104
TP105
TP106
TP107
TP108
TP109
TP111
TP112
TP113
TP114
TP115
RB101
RB102
RB106
RB107
RB108
RB109
RB110
RB111
RB112
R114
R115
R117
R120
R121
R122
R125
R126
R127
R129
R133
R136
R137
C108
C109
C113
C115
C116
C118
C119
C120
C125
C132
C138
C141
D105
D106
L103
L104
S101
S102


A
B
C
D
E
F
G
H
J
K
M
1
2
3
4
5
6
7
KC-14 1-621-120-11
KC-14
LOT NO.
SONY
MADE IN JAPAN
DIP
CN701
CN702M
CN703M
CN704M
+12V
+5V
-48V
FRES
LATCH
CPUCK
WCK
TX RX
TEST
RESET
BZ101

1-621-120-11 SOLDER SIDE

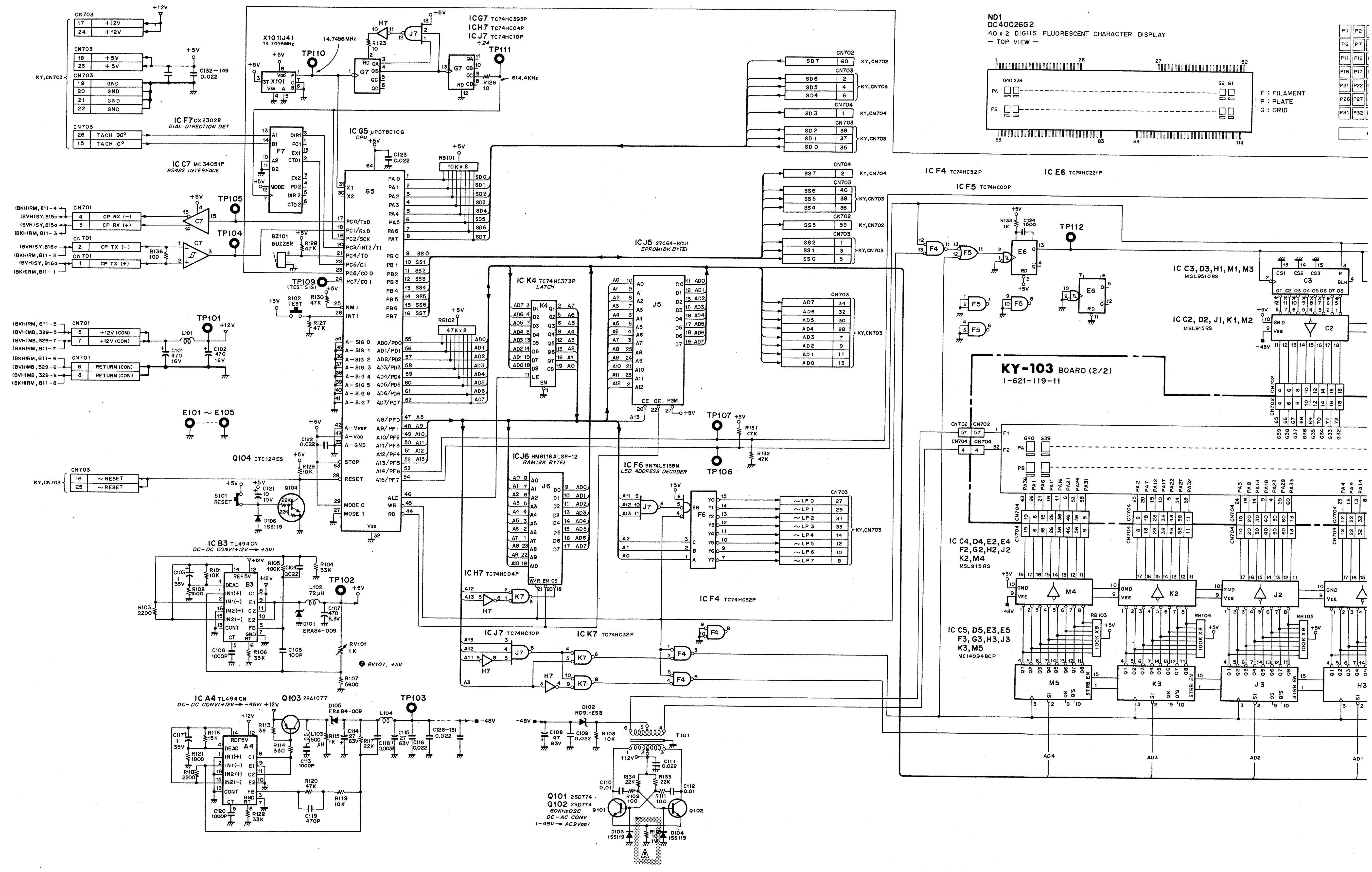
KC-14 (1-621-120-11)

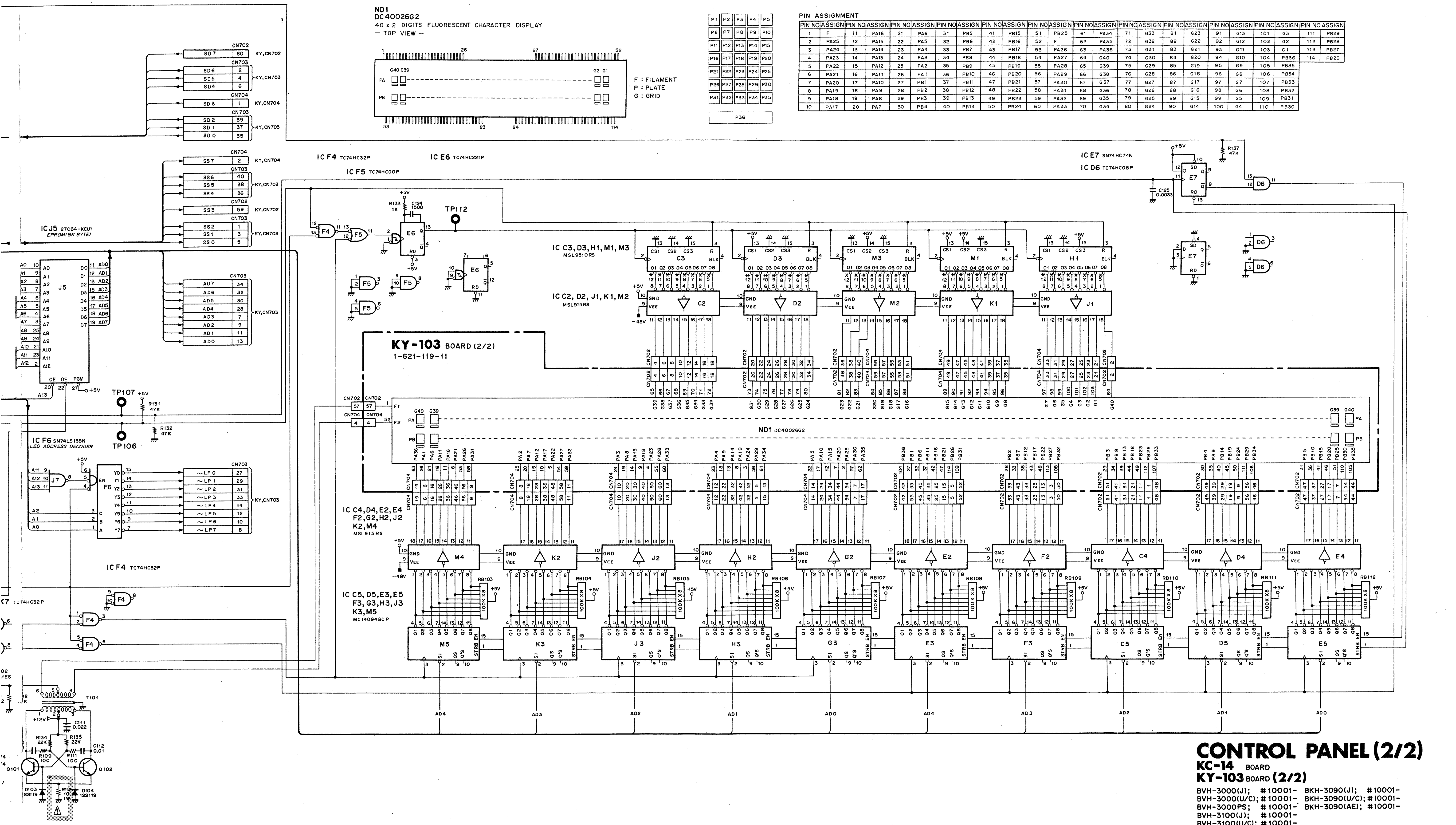
BKH-3090
BVH-3000/PS
BVH-3100/PS

B2101	M6
CN701	B1
CN702M	D2
CN703M	G2
CN704M	J2
D101	B2
D102	C5
D103	B4
D104	B5
D105	A7
D106	D6
E101	C1
E102	B5
E103	G4
E104	M2
E105	M7
Q101	B4
Q102	B5
Q103	A5
Q104	D7
RB101	G6
RB102	G4
RB103	M4
RB104	K2
RB105	J2
RB106	H2
RB107	G2
RB108	E2
RB109	F2
RB110	C4
RB111	D4
RB112	E4
RV101	B2
S101	D7
S102	D7
T101	C4
TP101	C1
TP102	C2
TP103	C6
TP104	D6
TP105	C6
TP106	G4
TP107	G4
TP109	H6
TP110	J4
TP111	G6
TP112	E6
TP113	C1
TP114	F2
TP115	H2

FUNCTION CONTROL PANEL(2/2)

KC-14 BOARD : Key Control


CN703
CN701
KY,CN703
IC G7 TC74HC393P
IC H7 TC74HC04P
IC J7 TC74HC10P
X101(J4) 14.7456MHz
TP110
TP111
614.4KHz
IC F7 CX23028 DIAL DIRECTION DET
IC C7 MC34051P RS422 INTERFACE
TACH 90°
TACH 0°
CP RX (−)
CP RX (+)
CP TX (−)
CP TX (+)
TP105
TP104
IC G5 µPD78C10G CPU
BZ101 BUZZER
TP109 (TEST SIG)
S102 TEST
RB101 10K x 8
RB102 47K x 8
IC K4 TC74HC373P LATCH
IC J5 27C64-KCU1 EPROM(8K BYTE)
IC J6 HM6116ALSP-12 RAM(2K BYTE)
IC F6 SN74LS138N LED ADDRESS DECODER
IC H7 TC74HC04P
IC J7 TC74HC10P
IC K7 TC74HC32P
IC F4 TC74HC32P
TP101
+12V (CON)
RETURN (CON)
E101 ~ E105
Q104 DTC124ES
S101 RESET
~RESET
TP107
TP106
IC B3 TL494CN DC-DC CONV(+12V → +5V)
TP102
RV101 1K
RV101; +5V
IC A4 TL494CN DC-DC CONV(+12V → −48V)
Q103 2SA1077
TP103
−48V
D102 RD9.1ESB
T101
Q101 2SD774
Q102 2SD774
60KHz OSC
DC-AC CONV (−48V → AC9Vpp)
ND1 DC40026G2
40 x 2 DIGITS FLUORESCENT CHARACTER DISPLAY
− TOP VIEW −
F : FILAMENT
P : PLATE
G : GRID
IC F4 TC74HC32P
IC F5 TC74HC00P
IC E6 TC74HC221P
TP112
IC C3, D3, H1, M1, M3 MSL9510RS
IC C2, D2, J1, K1, M2 MSL915RS
KY-103 BOARD (2/2)
1-621-119-11
IC C4, D4, E2, E4 F2, G2, H2, J2 K2, M4 MSL915RS
IC C5, D5, E3, E5 F3, G3, H3, J3 K3, M5 MC14094BCP
RB103
RB104
RB105
100K x 8
AD4
AD3
AD2
AD1


ND1
DC40026G2
40 x 2 DIGITS FLUORESCENT CHARACTER DISPLAY
— TOP VIEW —
F : FILAMENT
P : PLATE
G : GRID
P1 P2 P3 P4 P5
P6 P7 P8 P9 P10
P11 P12 P13 P14 P15
P16 P17 P18 P19 P20
P21 P22 P23 P24 P25
P26 P27 P28 P29 P30
P31 P32 P33 P34 P35
P36
IC J5 27C64-KCU1
EPROM(8K BYTE)
J5
IC F6 SN74LS138N
LED ADDRESS DECODER
IC F4 TC74HC32P
IC F5 TC74HC00P
IC E6 TC74HC221P
IC E7 SN74HC74N
IC D6 TC74HC08P
TP107
TP106
TP112
R131 47K
R132 47K
R133 1K
C124 1500
R137 47K
C125 0.0033
IC C3, D3, H1, M1, M3
MSL9510RS
IC C2, D2, J1, K1, M2
MSL915RS
KY-103 BOARD (2/2)
1-621-119-11
ND1 DC40026G2
IC C4, D4, E2, E4
F2, G2, H2, J2
K2, M4
MSL915RS
IC C5, D5, E3, E5
F3, G3, H3, J3
K3, M5
MC14094BCP
RB103
RB104
RB105
RB106
RB107
RB108
RB109
RB110
RB111
RB112
100K X 8
T101
C111 0.022
R134 22K
R135 22K
C112 0.01
R109 100
R111 100
Q101
Q102
D103 1SS119
D104 1SS119
+12V
+5V
-48V
AD0
AD1
AD2
AD3
AD4
KY,CN702
KY,CN703
KY,CN704
CN702
CN703
CN704

PIN ASSIGNMENT

PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN	PIN NO	ASSIGN
1	F	11	PA16	21	PA6	31	PB5	41	PB15	51	PB25	61	PA34	71	G33	81	G23	91	G13	101	G3	111	PB29
2	PA25	12	PA15	22	PA5	32	PB6	42	PB16	52	F	62	PA35	72	G32	82	G22	92	G12	102	G2	112	PB28
3	PA24	13	PA14	23	PA4	33	PB7	43	PB17	53	PA26	63	PA36	73	G31	83	G21	93	G11	103	G1	113	PB27
4	PA23	14	PA13	24	PA3	34	PB8	44	PB18	54	PA27	64	G40	74	G30	84	G20	94	G10	104	PB36	114	PB26
5	PA22	15	PA12	25	PA2	35	PB9	45	PB19	55	PA28	65	G39	75	G29	85	G19	95	G9	105	PB35		
6	PA21	16	PA11	26	PA1	36	PB10	46	PB20	56	PA29	66	G38	76	G28	86	G18	96	G8	106	PB34		
7	PA20	17	PA10	27	PB1	37	PB11	47	PB21	57	PA30	67	G37	77	G27	87	G17	97	G7	107	PB33		
8	PA19	18	PA9	28	PB2	38	PB12	48	PB22	58	PA31	68	G36	78	G26	88	G16	98	G6	108	PB32		
9	PA18	19	PA8	29	PB3	39	PB13	49	PB23	59	PA32	69	G35	79	G25	89	G15	99	G5	109	PB31		
10	PA17	20	PA7	30	PB4	40	PB14	50	PB24	60	PA33	70	G34	80	G24	90	G14	100	G4	110	PB30		

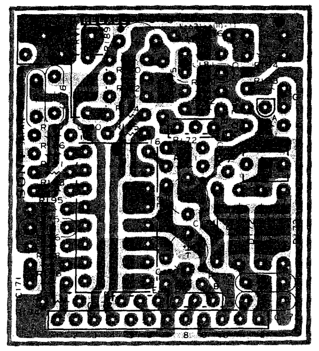
CONTROL PANEL (2/2)

KC-14 BOARD
KY-103 BOARD **(2/2)**

BVH-3000(J);	#10001-	BKH-3090(J);	#10001-
BVH-3000(U/C);	#10001-	BKH-3090(U/C);	#10001-
BVH-3000PS;	#10001-	BKH-3090(AE);	#10001-
BVH-3100(J);	#10001-		
BVH-3100(U/C);	#10001-		
BVH-3100PS;	#10001-		

UR-20-C1 BOARD (1-621-600-11)

Component Side

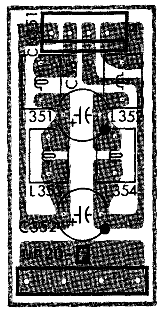


1-621-600-11
COMPONENT SIDE

1-621-600-11
SOLDER SIDE

UR-20-F BOARD (1-617-869-11)

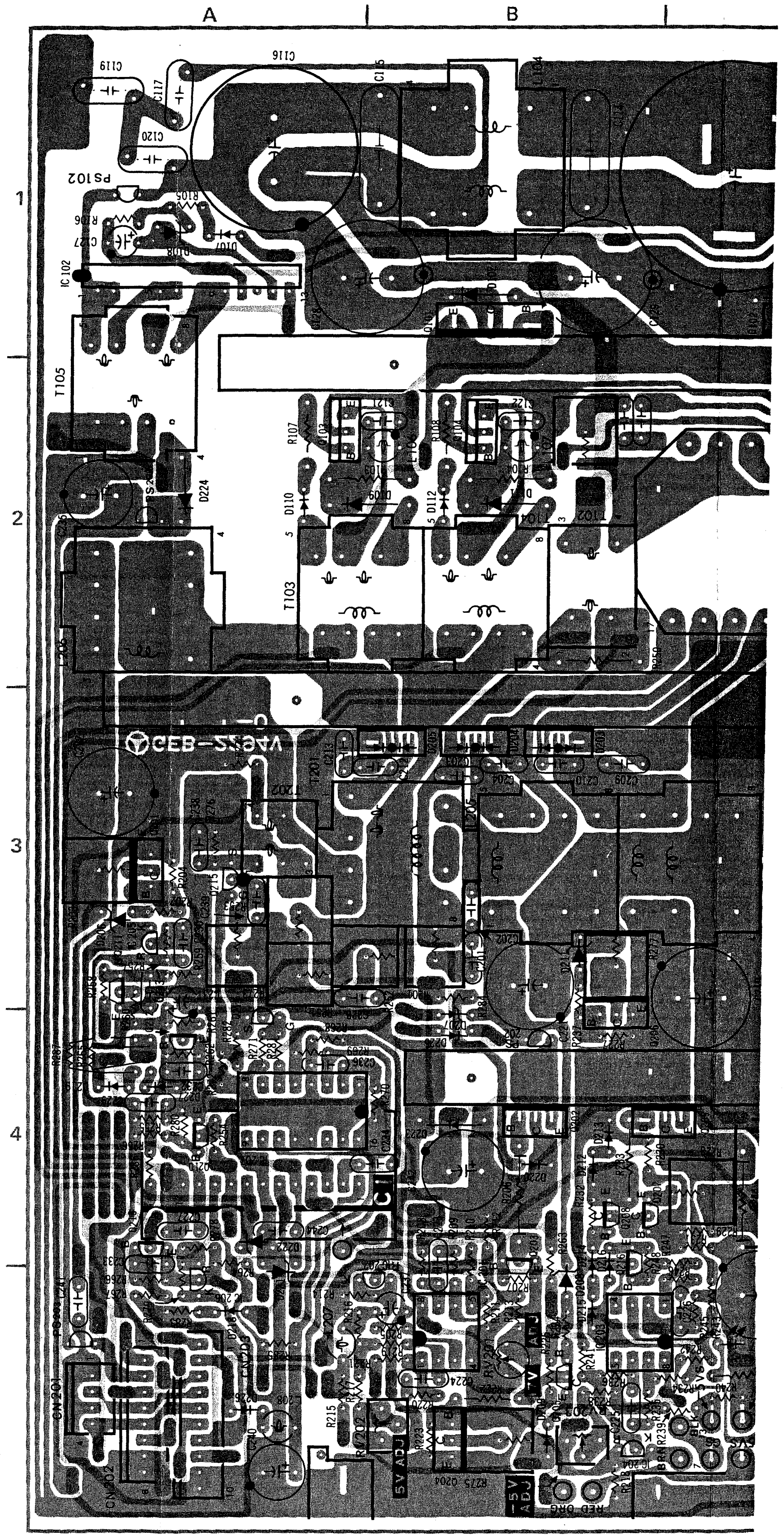
Component Side


L351
L352
L353
L354
UR20-F

1-617-869-11
SOLDER SIDE

SP-01 BOARD (1-621-602-12)

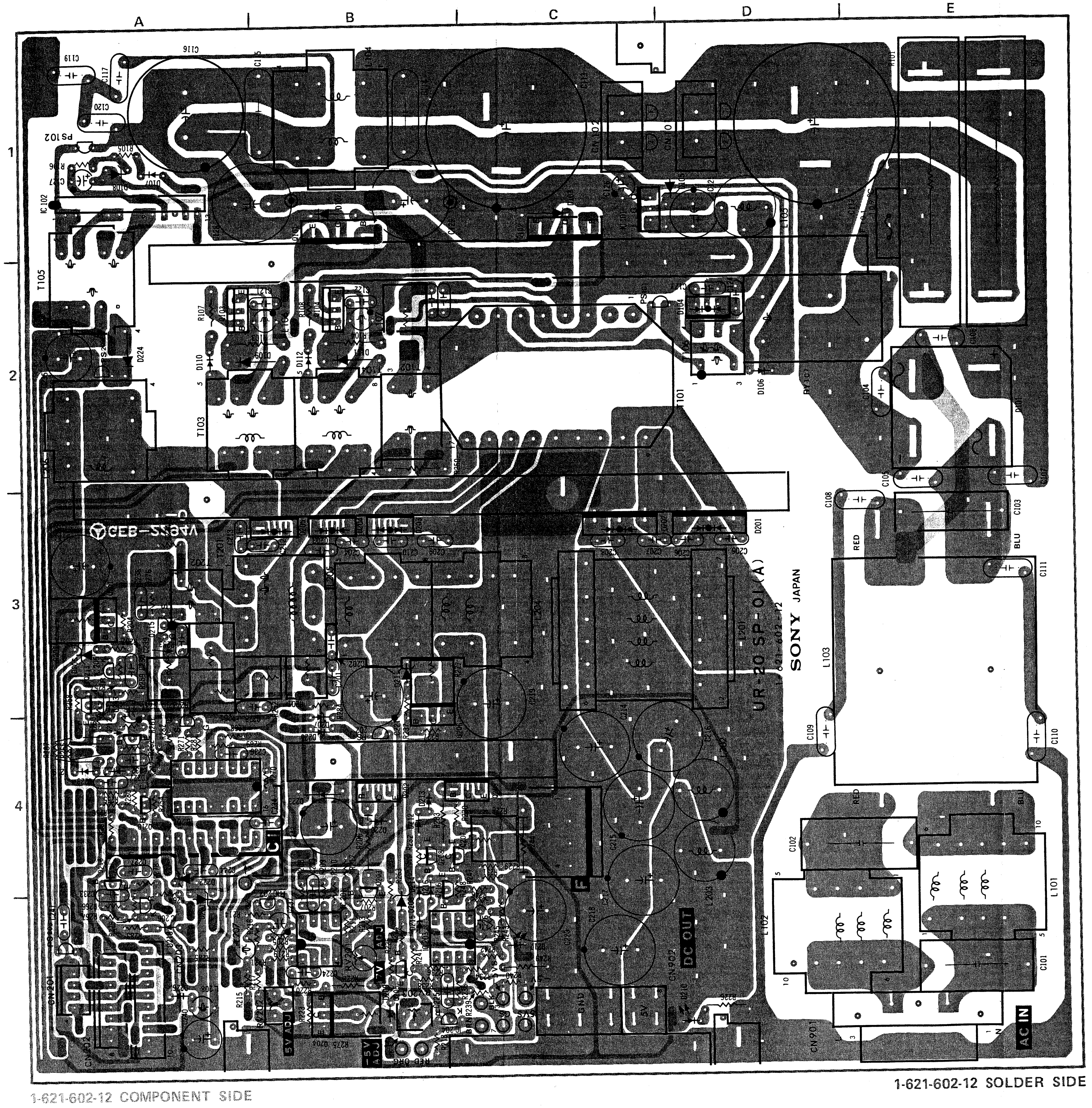
Component Side


A
B
1
2
3
4
C116
C119
C117
C120
PS102
R106
R105
C127
IC102
T105
D224
R107
D110
D112
T103
5V ADJ
-5V ADJ
R215

1-621-602-12 COMPONENT SIDE

SP-01 BOARD (1-621-602-12)

Component Side


A
B
C
D
E
1
2
3
4
T105
T103
IC102
PS102
CN201
CN902
CN901
DC OUT
AC IN
SONY JAPAN
UR-20 SP-01 (A)
L101
L102
L103
C101
C102
C103
C108
C109
C110
C111
RED
BLU
D201
5V ADJ
-5V ADJ

1-621-602-12 COMPONENT SIDE

1-621-602-12 SOLDER SIDE

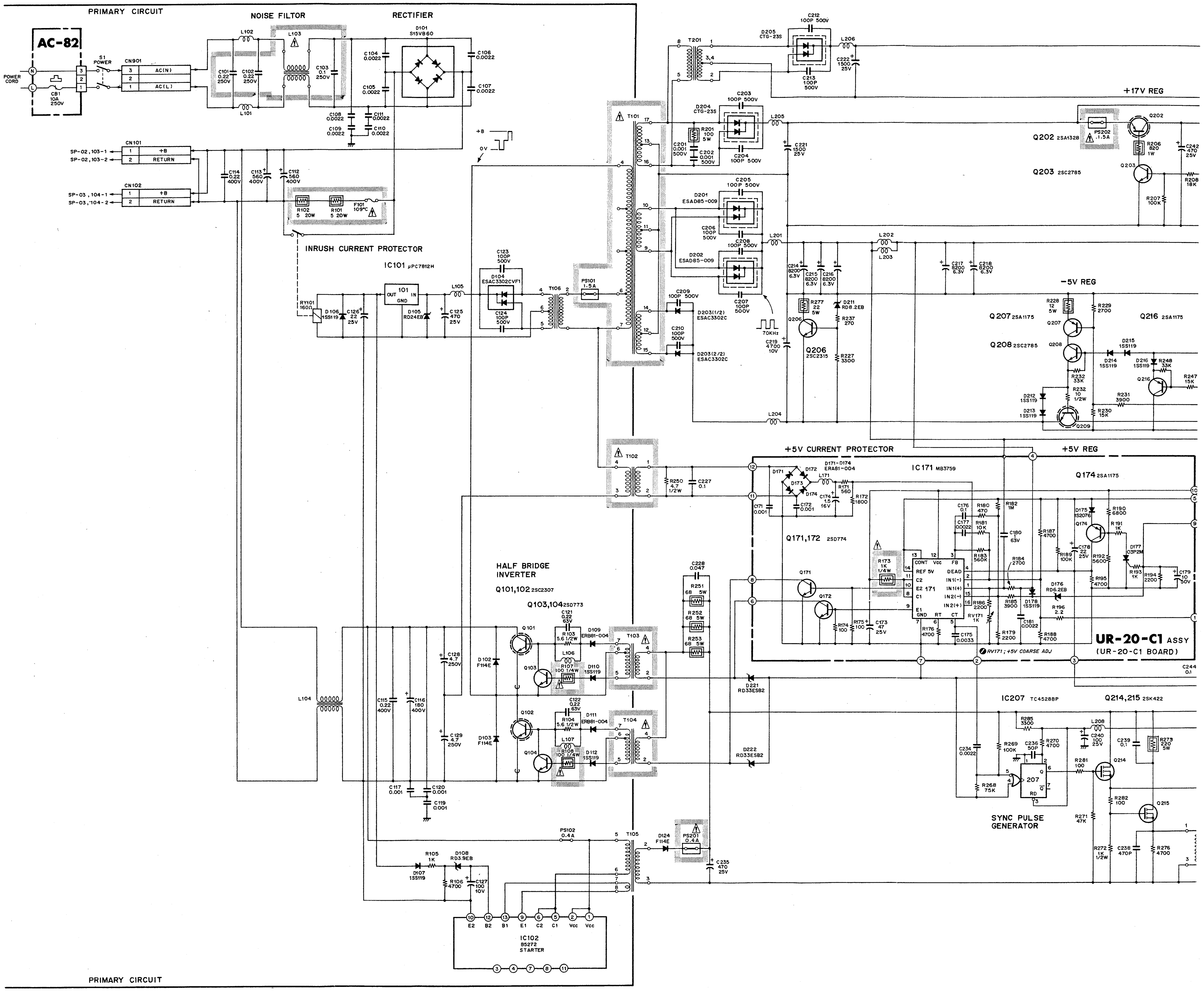
SP-01 (1-621-602-12)

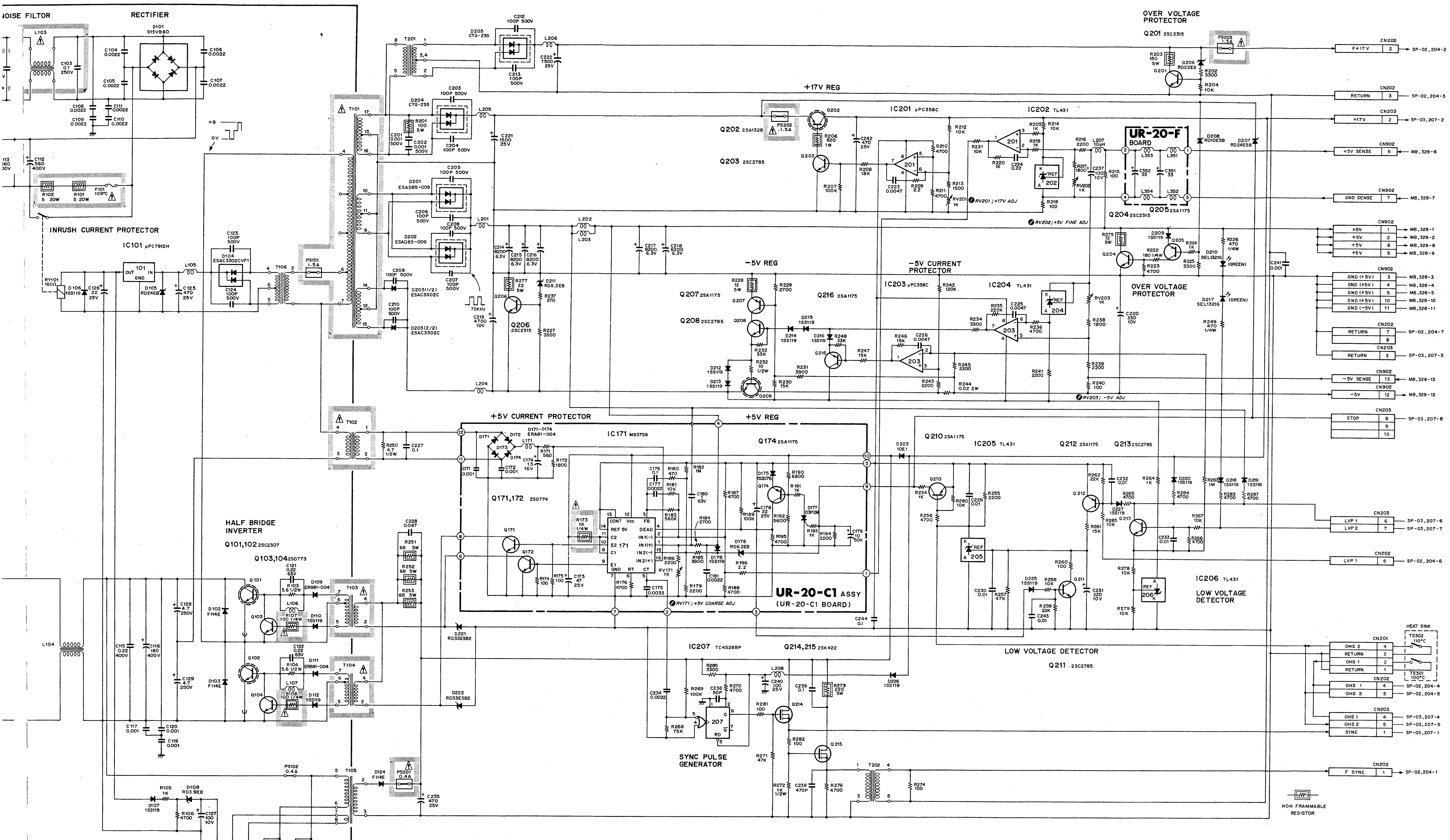
BVH-3000/PS
BVH-3100/PS

CN101	D1
CN102	C1
CN201	A5
CN202	A5
CN203	A5
CN901	E5
CN902	D5
D101	E2
D102	B1
D103	C1
D104	D2
D105	D1
D106	D2
D107	B1
D108	A1
D109	B2
D110	A2
D111	B2
D112	B2
D201	D3
D202	C3
D203	B3
D204	B3
D205	B3
D206	A3
D207	B4
D208	B5
D209	B5
D210	D5
D211	B3
D212	B4
D213	B4
D214	B5
D215	B5
D217	C5
D218	A5
D219	A4
D220	B4
D221	A5
D222	A4
D223	B4
D224	A2
D225	B4
D226	A5
D227	A4
IC101	D1
IC102	A1
IC201	B5
IC202	B5
IC203	B5
IC204	B5
IC205	A3
IC206	A5
IC207	A4
Q101	B1
Q102	C1
Q103	A2
Q104	B2
Q201	A3
Q202	B4
Q203	B4
Q204	B5
Q205	B5
Q206	B4
Q207	C4
Q208	B4
Q209	C4
Q210	A4
Q211	A3
Q212	A4
Q213	A4
Q214	A4
Q215	A3
Q216	B5
RV201	B5
RV202	B5
RV203	B5
RY101	D2

SP-01 BOARD

Switching Regulator


PRIMARY CIRCUIT
AC-82
POWER CORD
S1 POWER
CN901
AC(N)
AC(L)
NOISE FILTOR
RECTIFIER
D101 S15VB60
CN101
SP-02,103-1
SP-02,103-2
+B
RETURN
CN102
SP-03,104-1
SP-03,104-2
INRUSH CURRENT PROTECTOR
IC101 μPC7812H
RY101
T101
T102
T103
T104
T105
T106
T201
+17V REG
Q202 2SA1328
Q203 2SC2785
-5V REG
Q207 2SA1175
Q208 2SC2785
Q216 2SA1175
Q206 2SC2315
70KHz
+5V CURRENT PROTECTOR
+5V REG
IC171 MB3759
Q174 2SA1175
Q171,172 2SD774
UR-20-C1 ASSY
(UR-20-C1 BOARD)
RV171 ; +5V COARSE ADJ
HALF BRIDGE INVERTER
Q101,102 2SC2307
Q103,104 2SD773
IC102 85272 STARTER
E2 B2 B1 E1 C2 C1 Vcc Vcc
IC207 TC4528BP
Q214,215 2SK422
SYNC PULSE GENERATOR
PRIMARY CIRCUIT

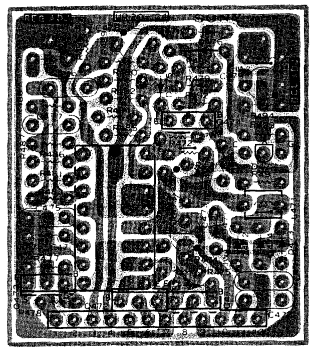

NOISE FILTER
RECTIFIER
INRUSH CURRENT PROTECTOR
IC101 μPC7812H
HALF BRIDGE INVERTER
Q101,102 2SC2307
Q103,104 2SD773
IC102 BS272 STARTER
+17V REG
Q202 2SA1328
Q203 2SC2785
IC201 μPC358C
IC202 TL431
OVER VOLTAGE PROTECTOR
Q201 2SC2315
UR-20-F BOARD
Q204 2SC2315
Q205 2SA1175
-5V REG
Q207 2SA1175
Q208 2SC2785
Q216 2SA1175
-5V CURRENT PROTECTOR
IC203 μPC358C
IC204 TL431
OVER VOLTAGE PROTECTOR
Q206 2SC2315
70KHz
+5V CURRENT PROTECTOR
+5V REG
IC171 MB3759
Q174 2SA1175
Q171,172 2SD774
UR-20-C1 ASSY (UR-20-C1 BOARD)
RV171 ; +5V COARSE ADJ
RV201 ; +17V ADJ
RV202 ; +5V FINE ADJ
RV203 ; -5V ADJ
Q210 2SA1175
IC205 TL431
Q212 2SA1175
Q213 2SC2785
IC206 TL431
LOW VOLTAGE DETECTOR
Q211 2SC2785
IC207 TC4528BP
Q214,215 2SK422
SYNC PULSE GENERATOR
HEAT SINK
TS302 110°C
TS301 100°C
CN202
CN203
CN902
CN201
F+17V
RETURN
+17V
+5V SENSE
GND SENSE
+5V
GND (+5V)
GND (-5V)
-5V SENSE
-5V
STOP
LVP 1
LVP 2
OHS 1
OHS 2
SYNC
F SYNC
SP-02,204-2
SP-02,204-3
SP-03,207-2
MB,328-6
MB,328-7
MB,328-1
MB,328-2
MB,328-8
MB,328-9
MB,328-3
MB,328-4
MB,328-5
MB,328-10
MB,328-11
SP-02,204-7
SP-03,207-3
MB,328-13
MB,328-12
SP-03,207-8
SP-03,207-6
SP-03,207-7
SP-02,204-6
SP-02,204-4
SP-02,204-5
SP-03,207-4
SP-03,207-5
SP-03,207-1
SP-02,204-1
NON FRAMMABLE RESISTOR

SP-01 BOARD

BOARD NO. 1-621-602-11,12
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

UR-20-C4 BOARD (1-622-674-11)

Component Side

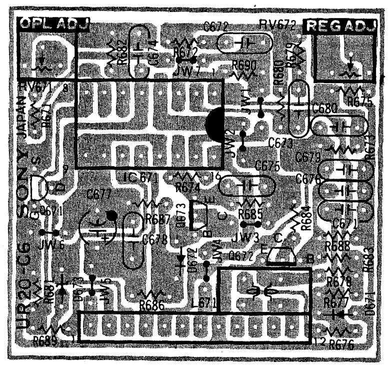


1-622-674-11
SOLDER SIDE

1-622-674-11
COMPONENT SIDE

UR-20-C6 BOARD (1-621-601-11)

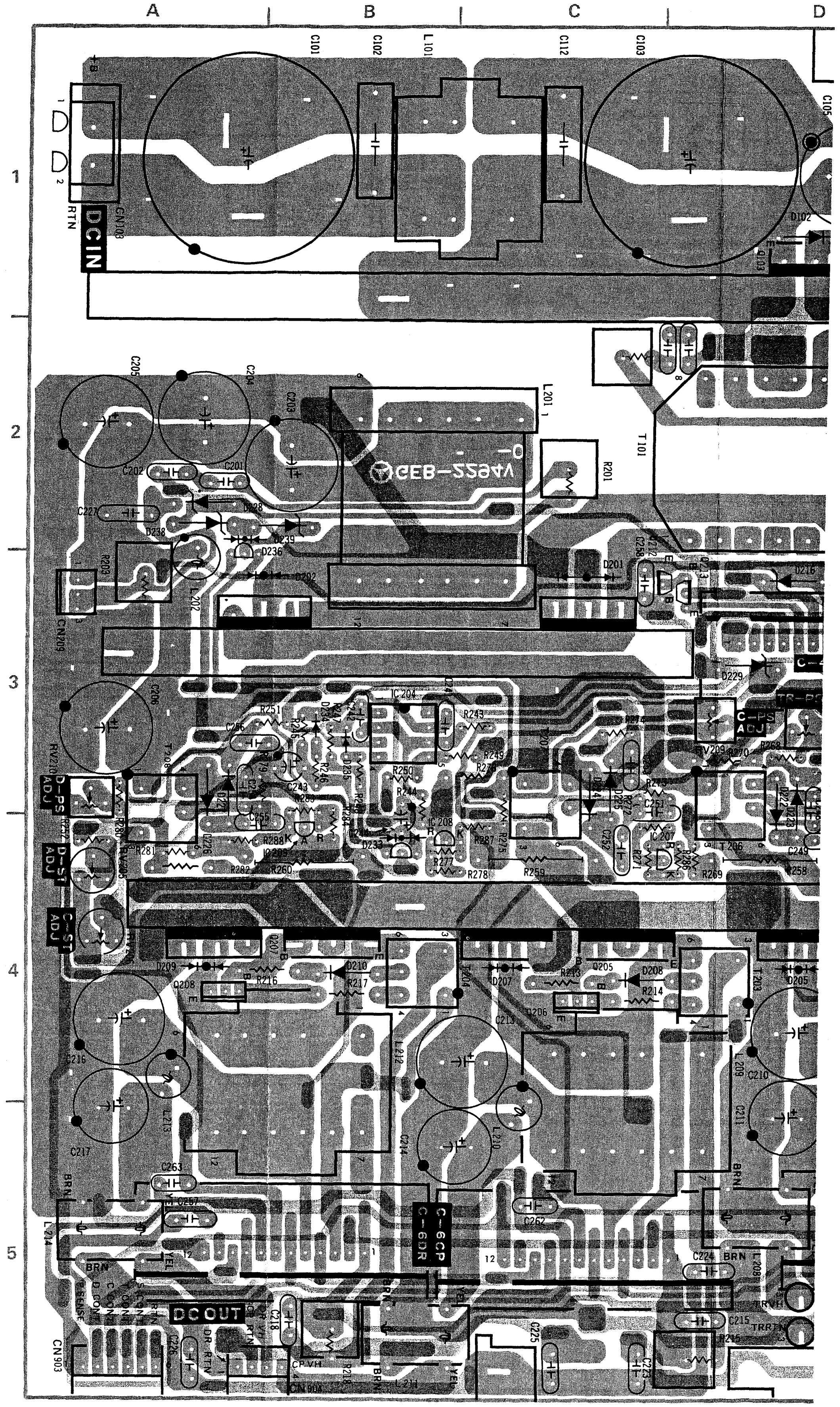
Component Side


OPL ADJ
REG ADJ
SONY JAPAN
UR-20-C6

1-621-601-11 SOLDER SIDE

SP-02 BOARD (1-621-603-11)

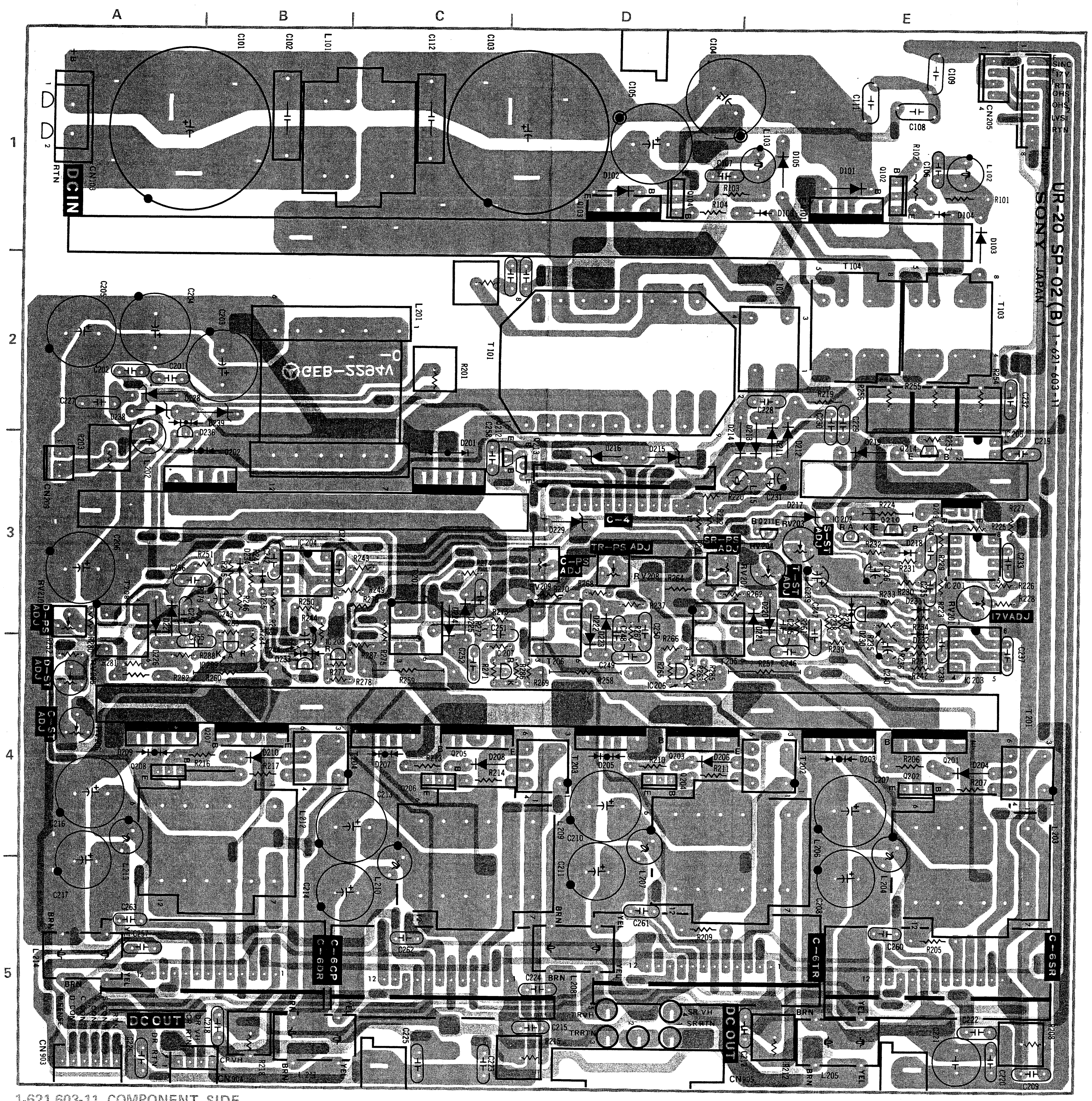
Component Side


A
B
C
D
1
2
3
4
5
C101
C102
L101
C112
C103
CN103
RTN
DC IN
T101
L201
R201
D-PS ADJ
D-ST ADJ
C-ST ADJ
C-6CP
C-6DR
DC OUT
CN903
BRN
YEL

1-621-603-11 COMPONENT SIDE

SP-02 BOARD (1-621-603-11)

Component Side


A
B
C
D
E
1
2
3
4
5
DC IN
RTN
CN103
C101
C102
L101
C112
C103
C104
C105
C109
C108
C111
C106
R102
L102
R101
D101
D102
D103
D104
D105
D106
L103
Q101
Q102
Q103
Q104
R103
R104
T101
T102
T103
T104
SONY
UR-20 SP-02 (B) 1-621-603-11
JAPAN
CN205
SINC
17V
RTN
OHS
OHS
LVS
RTN
CN204
C205
C204
C203
C202
C201
L201
R201
C-4
TR-PS ADJ
C-PS ADJ
SP-PS ADJ
S-ST ADJ
T-ST ADJ
D-PS ADJ
D-ST ADJ
C-ST ADJ
17V ADJ
IC201
IC203
IC204
IC206
IC207
C-6GP
C-6DR
C-6TR
C-6SR
DC OUT
DC OUT
CN903
CN904
CN905
BRN
YEL
TRVH
TRRTN
SR VH
SRRTN
CP VH
CP RTN
DR VH
DR RTN
L201
L202
L203
L204
L205
L206
L207
L208
L209
L210
L211
L212
L213

1-621-603-11 COMPONENT SIDE

1-621-603-11 SOLDER SIDE

SP-02 (1-621-603-11)

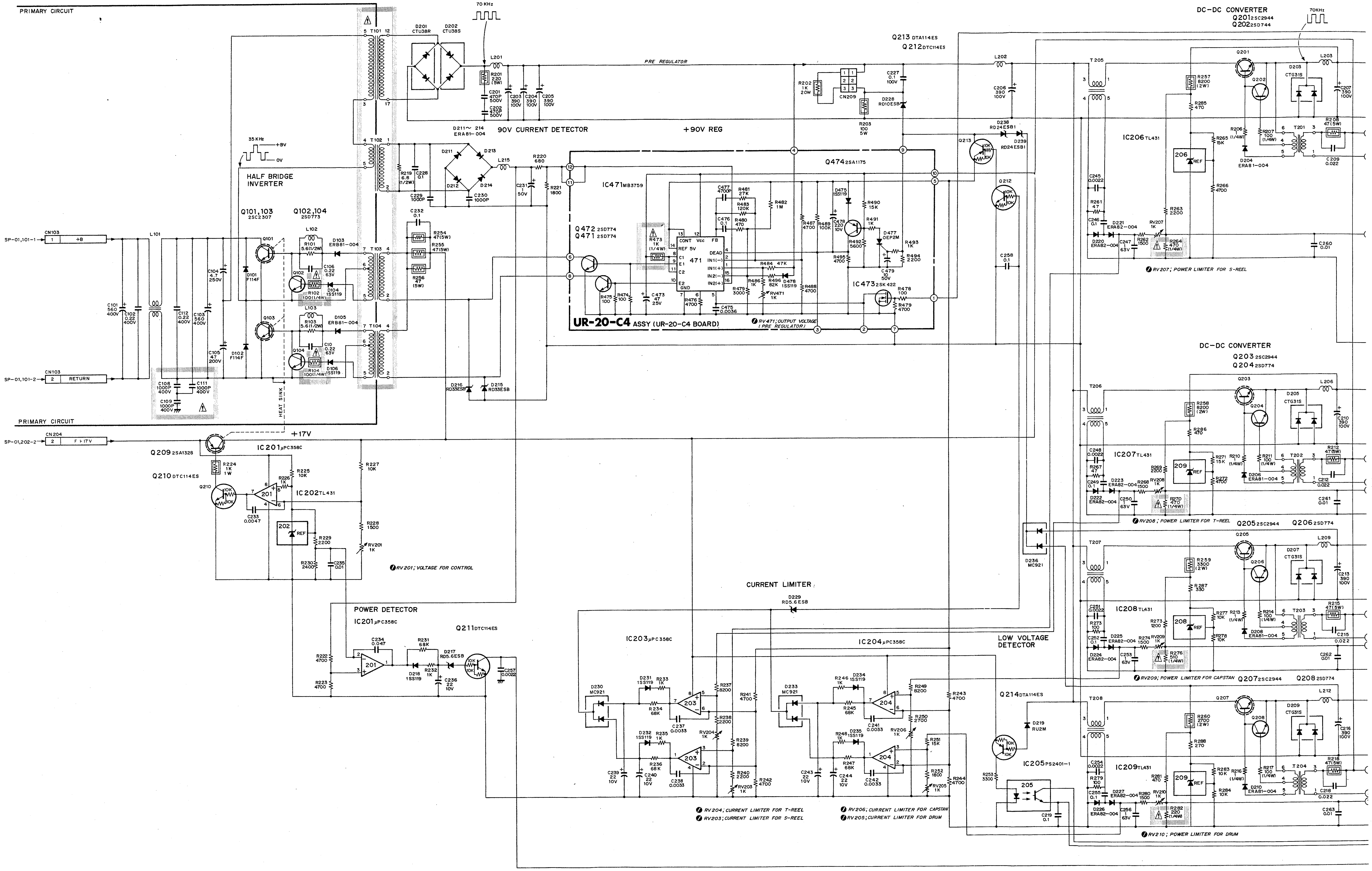
BVH-3000/PS
BVH-3100/PS

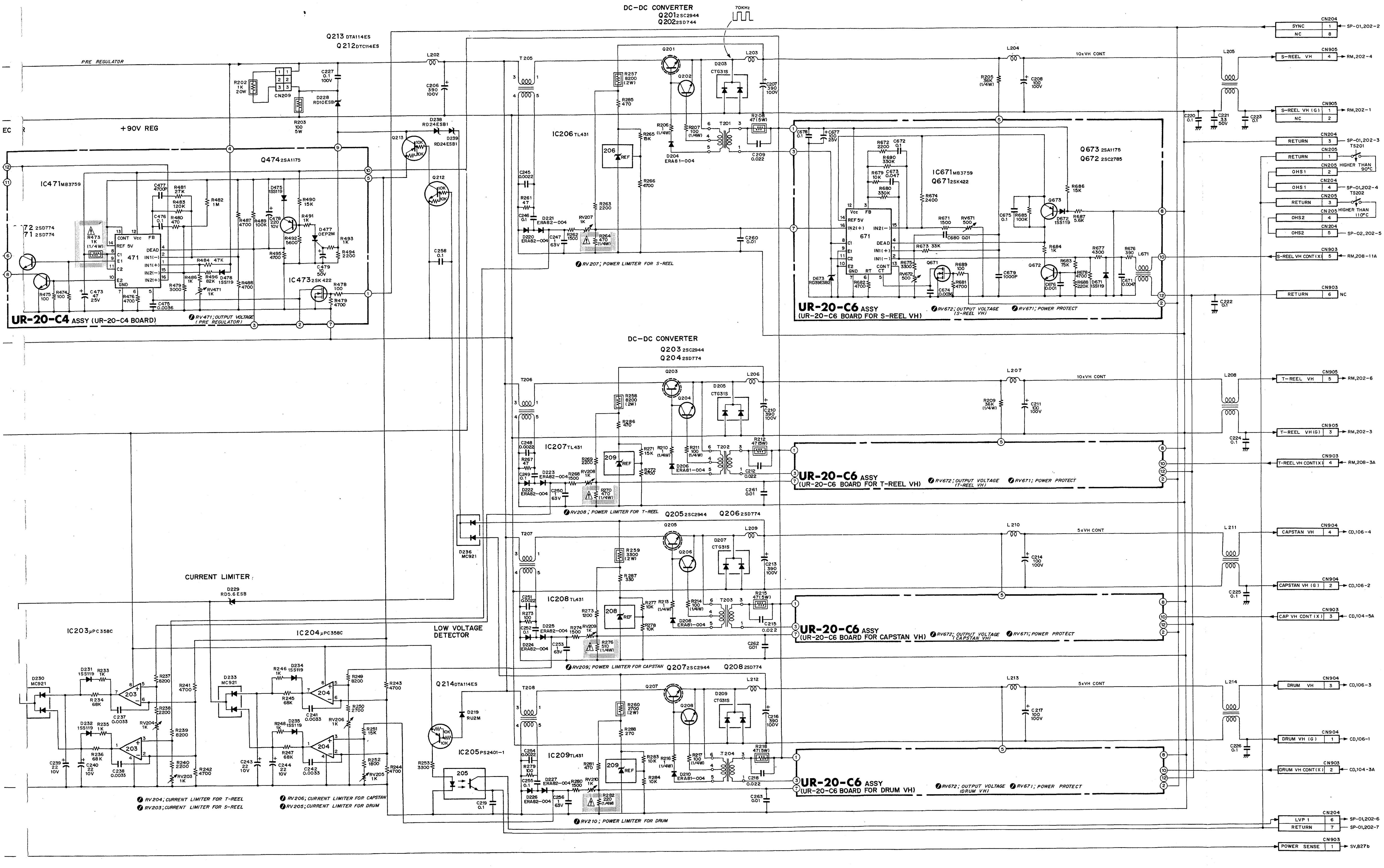
CN103	A1
CN204	E1
CN205	E1
CN209	E1
CN903	E1
CN904	E1
CN905	E1
D101	E1
D102	D1
D103	E1
D104	E1
D105	D1
D106	D1
D201	C3
D202	B3
D203	E4
D205	D4
D206	D4
D207	C4
D208	C4
D209	A4
D210	B4
D211	D3
D212	D3
D213	D3
D214	D3
D215	D3
D216	D3
D217	D3
D218	E3
D219	E3
D220	D3
D221	D3
D222	D3
D223	D3
D224	C3
D225	C3
D226	A3
D227	A3
D228	A2
D229	C3
D230	E3
D231	E3
D232	E3
D233	B4
D234	B3
D235	B3
D236	A2
D238	A2
D239	B2
D240	E4

IC201	E3
IC202	E3
IC203	E4
IC204	B3
IC205	E3
IC206	D4
IC207	C4
IC208	B4
IC209	B4
Q101	E1
Q102	E1
Q103	D1
Q104	D1
Q201	E4
Q202	E4
Q203	D4
Q204	D4
Q205	C4
Q206	D3
Q207	B4
Q208	A4
Q209	E3
Q210	E3
Q211	D3
Q212	C3
Q213	C3
Q214	E3
RV201	E3
RV203	D3
RV204	D3
RV205	A4
RV206	A4
RV207	D3
RV208	D3
RV209	C3
RV210	A3

SP-02 BOARD

Switching Regulator

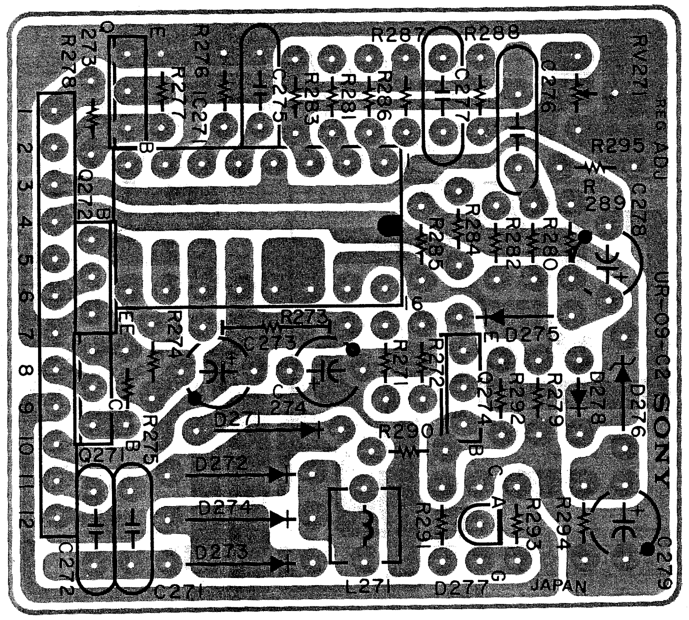

PRIMARY CIRCUIT
HALF BRIDGE INVERTER
Q101,103 2SC2307
Q102,104 2SD773
35 KHz
70 KHz
90V CURRENT DETECTOR
+90V REG
PRE REGULATOR
IC471 MB3759
Q472 2SD774
Q471 2SD774
Q474 2SA1175
IC473 2SK422
UR-20-C4 ASSY (UR-20-C4 BOARD)
RV471; OUTPUT VOLTAGE (PRE REGULATOR)
Q213 DTA114ES
Q212 DTC114ES
DC-DC CONVERTER
Q201 2SC2944
Q202 2SD744
Q203 2SC2944
Q204 2SD774
Q205 2SC2944
Q206 2SD774
Q207 2SC2944
Q208 2SD774
IC206 TL431
IC207 TL431
IC208 TL431
IC209 TL431
RV207; POWER LIMITER FOR S-REEL
RV208; POWER LIMITER FOR T-REEL
RV209; POWER LIMITER FOR CAPSTAN
RV210; POWER LIMITER FOR DRUM
SP-01,101-1
SP-01,101-2
SP-01,202-2
CN103
CN204
+B
RETURN
F+17V
+17V
HEAT SINK
Q209 2SA1328
Q210 DTC114ES
IC201 μPC358C
IC202 TL431
RV201; VOLTAGE FOR CONTROL
POWER DETECTOR
Q211 DTC114ES
CURRENT LIMITER
IC203 μPC358C
IC204 μPC358C
RV204; CURRENT LIMITER FOR T-REEL
RV203; CURRENT LIMITER FOR S-REEL
RV206; CURRENT LIMITER FOR CAPSTAN
RV205; CURRENT LIMITER FOR DRUM
LOW VOLTAGE DETECTOR
Q214 DTA114ES
IC205 PS2401-1
D236 MC921


DC-DC CONVERTER
Q201 2SC2944
Q202 2SD744
70KHz
Q213 DTA114ES
Q212 DTC114ES
PRE REGULATOR
+90V REG
Q474 2SA1175
IC471 MB3759
IC206 TL431
Q673 2SA1175
Q672 2SC2785
IC671 MB3759
Q671 2SK422
IC473 2SK422
UR-20-C4 ASSY (UR-20-C4 BOARD)
RV471; OUTPUT VOLTAGE (PRE REGULATOR)
RV207; POWER LIMITER FOR S-REEL
UR-20-C6 ASSY
(UR-20-C6 BOARD FOR S-REEL VH)
RV672; OUTPUT VOLTAGE (S-REEL VH)
RV671; POWER PROTECT
10xVH CONT
DC-DC CONVERTER
Q203 2SC2944
Q204 2SD774
IC207 TL431
UR-20-C6 ASSY
(UR-20-C6 BOARD FOR T-REEL VH)
RV672; OUTPUT VOLTAGE (T-REEL VH)
RV671; POWER PROTECT
RV208; POWER LIMITER FOR T-REEL
Q205 2SC2944
Q206 2SD774
5xVH CONT
IC208 TL431
CURRENT LIMITER
D229 RD5.6ESB
UR-20-C6 ASSY
(UR-20-C6 BOARD FOR CAPSTAN VH)
RV672; OUTPUT VOLTAGE (CAPSTAN VH)
RV671; POWER PROTECT
RV209; POWER LIMITER FOR CAPSTAN
Q207 2SC2944
Q208 2SD774
IC203 μPC358C
IC204 μPC358C
LOW VOLTAGE DETECTOR
Q214 DTA114ES
IC205 PS2401-1
IC209 TL431
UR-20-C6 ASSY
(UR-20-C6 BOARD FOR DRUM VH)
RV672; OUTPUT VOLTAGE (DRUM VH)
RV671; POWER PROTECT
RV210; POWER LIMITER FOR DRUM
RV204; CURRENT LIMITER FOR T-REEL
RV203; CURRENT LIMITER FOR S-REEL
RV206; CURRENT LIMITER FOR CAPSTAN
RV205; CURRENT LIMITER FOR DRUM
CN204 SYNC 1 NC 8 SP-01,202-2
CN905 S-REEL VH 4 RM,202-4
CN905 S-REEL VH (G) 1 NC 2 RM,202-1
CN204 RETURN 3 SP-01,202-3
TS201 HIGHER THAN 90°C
CN205 RETURN 1 OHS1 2
CN204 OHS1 4 SP-01,202-4
TS202 HIGHER THAN 110°C
CN205 RETURN 3 OHS2 4
CN204 OHS2 5 SP-02,202-5
CN903 S-REEL VH CONT(X) 5 RM,208-11A
CN903 RETURN 6 NC
CN905 T-REEL VH 5 RM,202-6
CN905 T-REEL VH (G) 3 RM,202-3
CN903 T-REEL VH CONT(X) 4 RM,208-3A
CN904 CAPSTAN VH 4 CD,106-4
CN904 CAPSTAN VH (G) 2 CD,106-2
CN903 CAP VH CONT(X) 3 CD,104-5A
CN904 DRUM VH 3 CD,106-3
CN904 DRUM VH (G) 1 CD,106-1
CN903 DRUM VH CONT(X) 2 CD,104-3A
CN204 LVP 1 6 SP-01,202-6
RETURN 7 SP-01,202-7
CN903 POWER SENSE 1 SV,B27b

SWITCHING REGULATOR
SP-02 BOARD
BOARD NO. 1-621-603-11
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

UR-09-C2 BOARD (1-611-864-12)

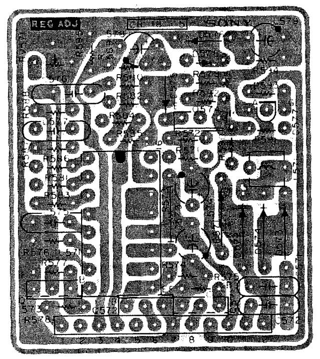
Component Side


REG ADJ
SONY
JAPAN
UR-09-C2
RV271

1-611-864-12 SOLDER SIDE

CR-18-C5 BOARD (1-614-232-11)

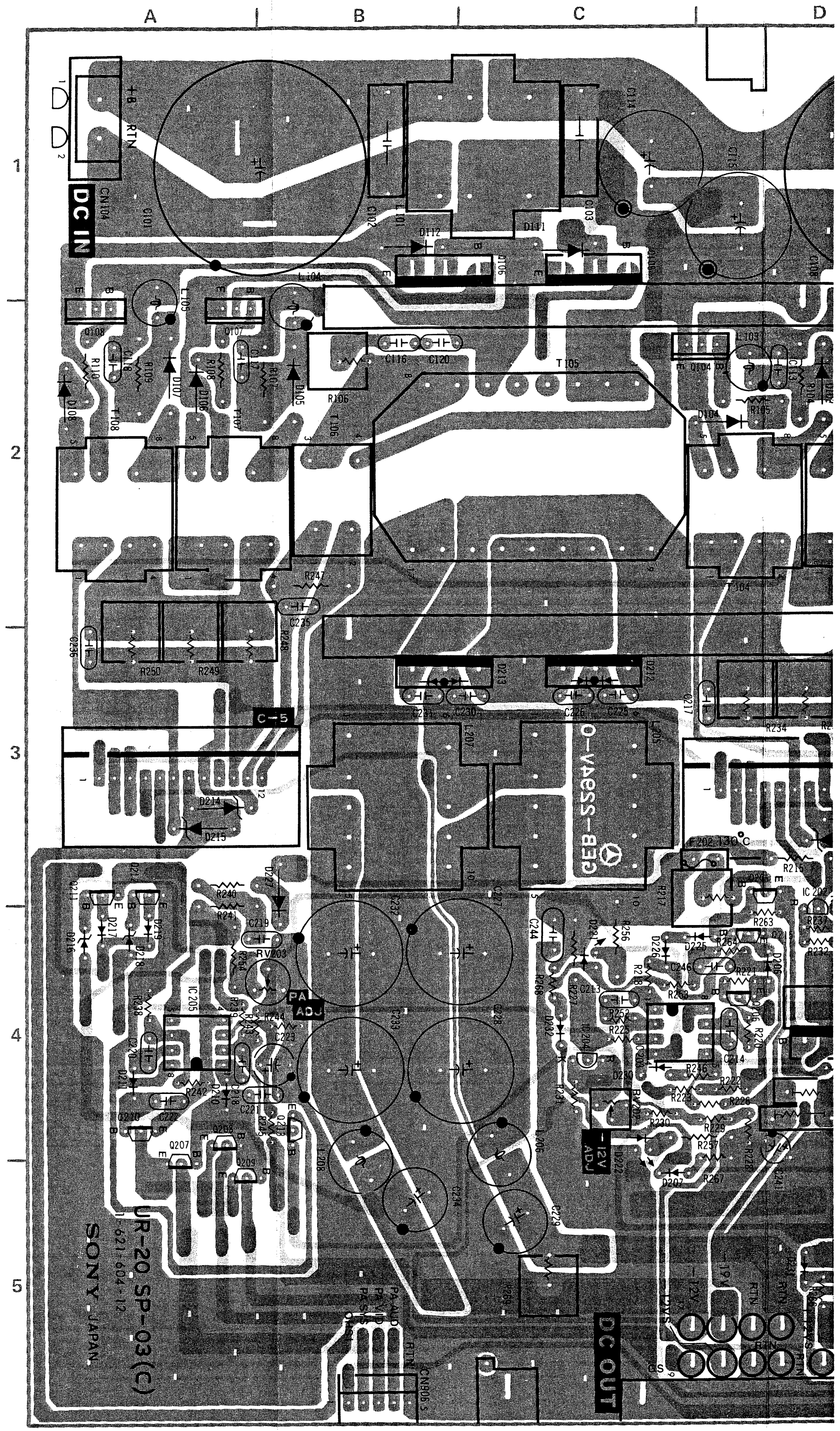
Component Side



1-614-232-11 SOLDER SIDE

SP-03 BOARD (1-621-604-12)

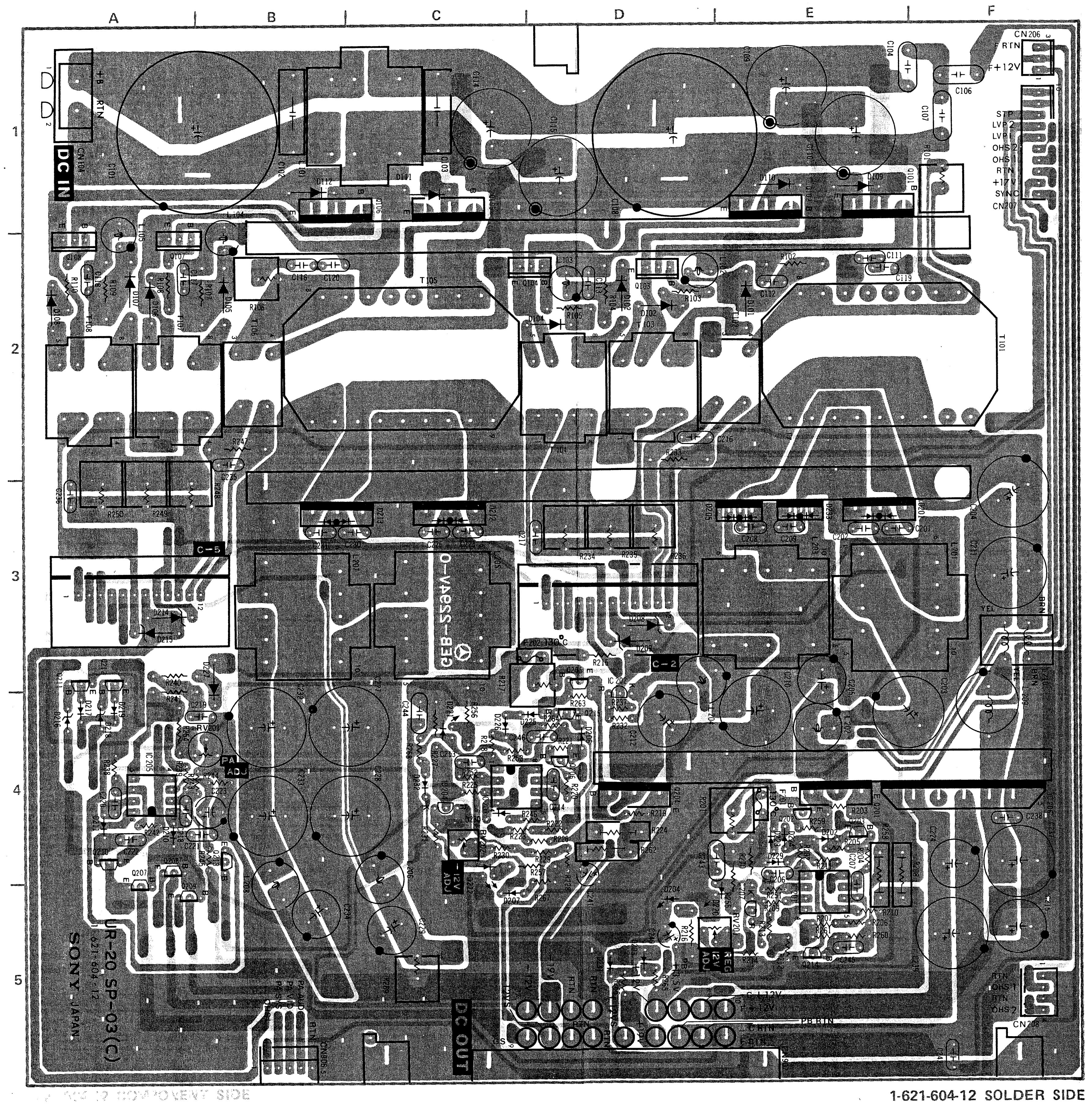
Component Side


A
B
C
D
1
2
3
4
5
DC IN
C-5
PA ADJ
-12V ADJ
DC OUT
UR-20 SP-03(C)
1-621-604-12
SONY JAPAN

1-621-604-12 COMPONENT SIDE

SP-03 BOARD (1-621-604-12)

Component Side

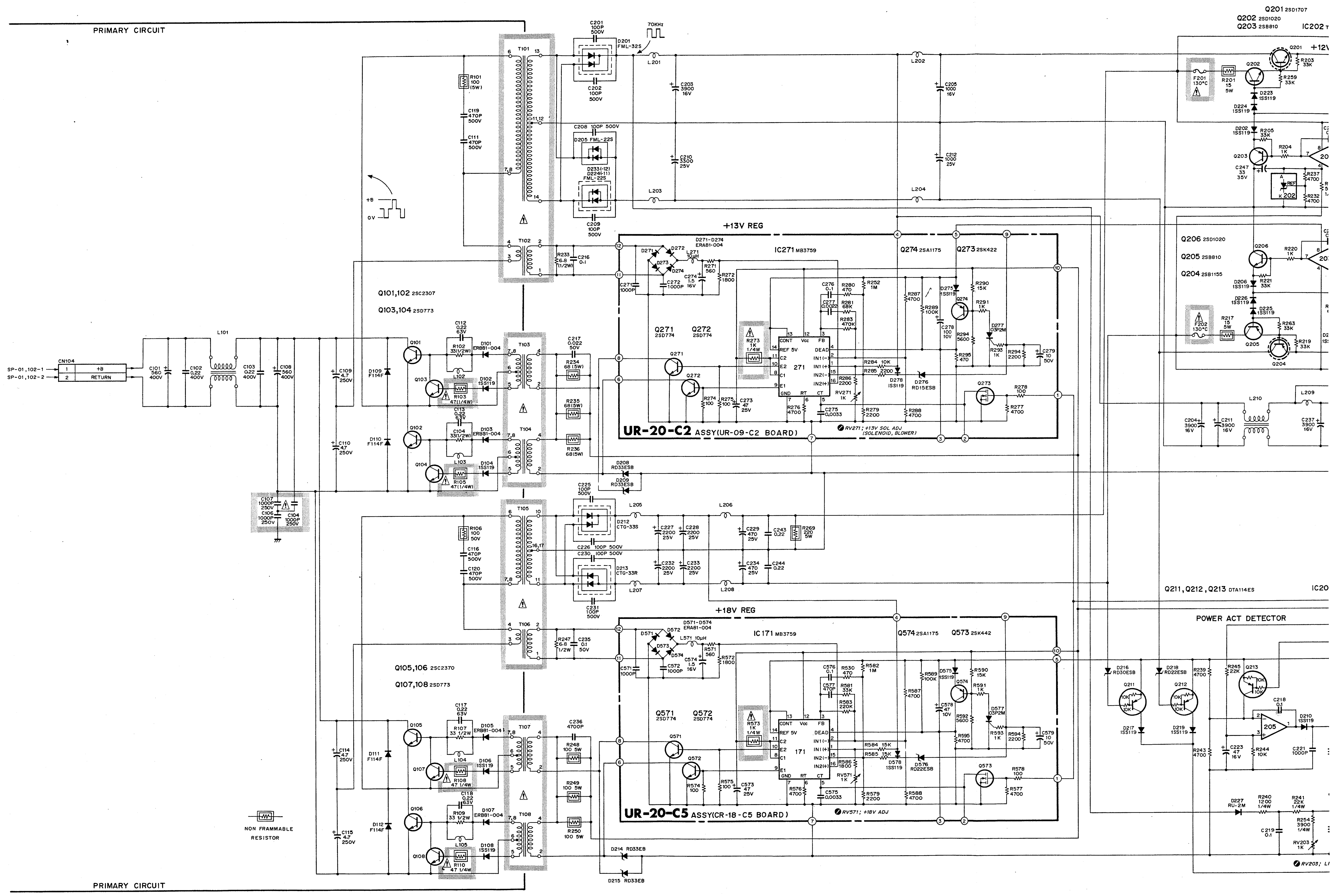

A
B
C
D
E
F
1
2
3
4
5
DC IN
DC OUT
+B
RTN
CN104
CN206
CN207
CN208
CN906
+12V
+17V
SYNC
T101
T105
C-5
C-2
PA ADJ
-12V ADJ
REG 12V ADJ
PB RTN
SONY JAPAN
UR-20 SP-03(C)
1-621-604-12
1-621-604-12 SOLDER SIDE

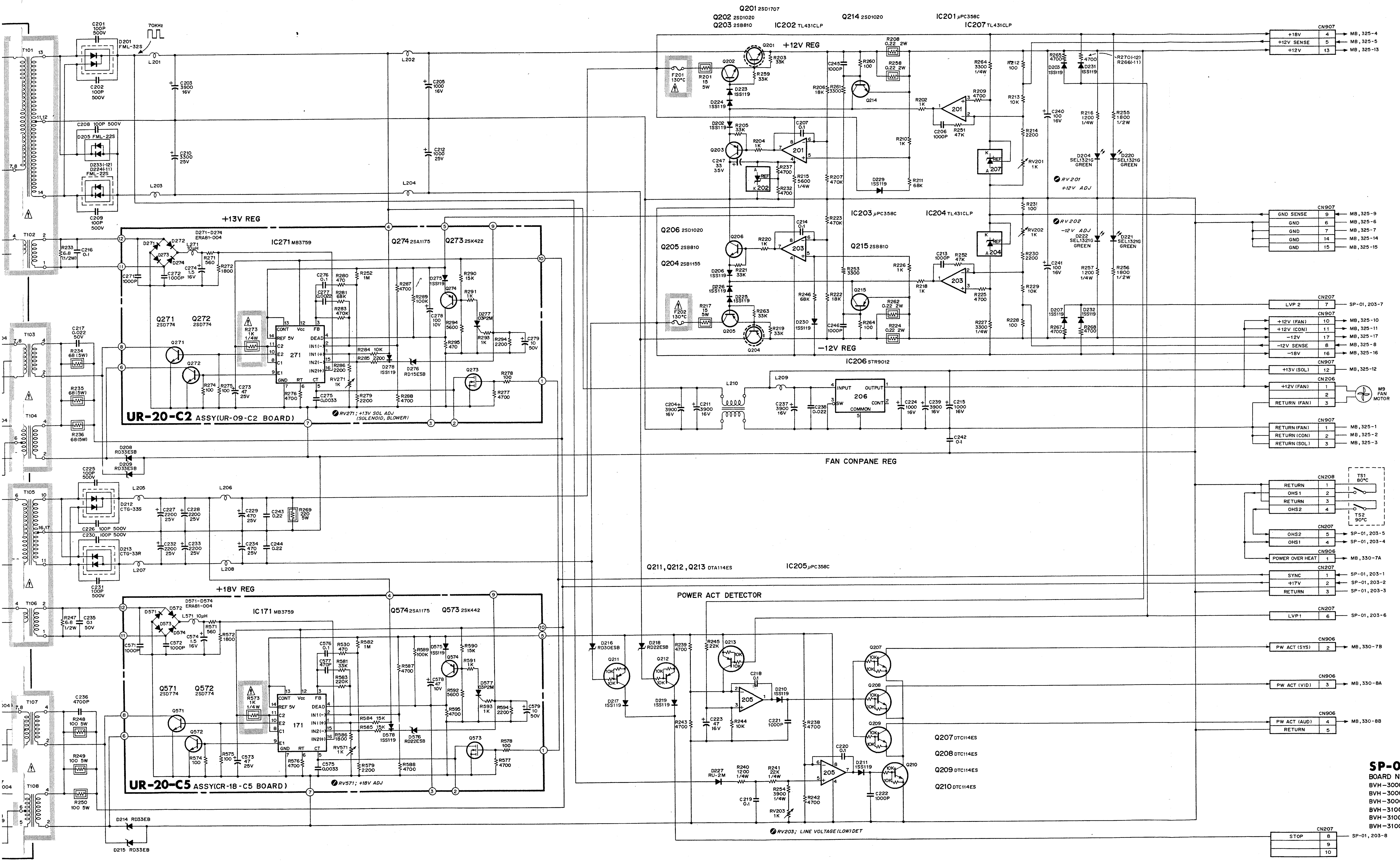
SP-03 (1-621-604-12)

BVH-3000/PS
BVH-3100/PS

CN104	A1
CN206	F1
CN207	F1
CN208	F5
CN906	B5
CN907	E5
D101	E2
D102	D2
D103	D2
D104	D2
D105	B2
D106	A2
D107	A2
D108	A2
D109	E1
D110	E1
D111	C1
D112	B1
D201	E3
D202	E4
D203	D5
D204	D5
D205	E3
D206	D4
D207	C5
D208	D3
D209	D3
D210	A4
D211	A4
D212	C3
D213	B3
D214	A3
D215	A3
D216	A4
D217	A4
D218	A4
D219	A4
D220	E5
D221	C4
D222	C4
D223	E4
D233	E3
(HEAT SYNC)	
D224	E4
D225	D4
D226	C4
D227	B3
D229	E4
D230	C4
D231	D5
D232	C4
IC201	E5
IC202	D4
IC203	C4
IC204	C4
IC205	A4
IC206	F4
IC207	E5
Q101	E1
Q102	E1
Q103	D2
Q104	D2
Q105	C1
Q106	C1
Q107	A2
Q108	A2
Q201	E4
Q202	E4
Q203	E4
Q204	D4
Q205	D3
Q206	D4
Q207	A
Q208	A4
Q209	A
Q210	A4
Q211	A3
Q212	A3
Q213	B4
Q214	E5
Q215	D4
RV201	E5
RV202	C4
RV203	B4

SP-03 BOARD

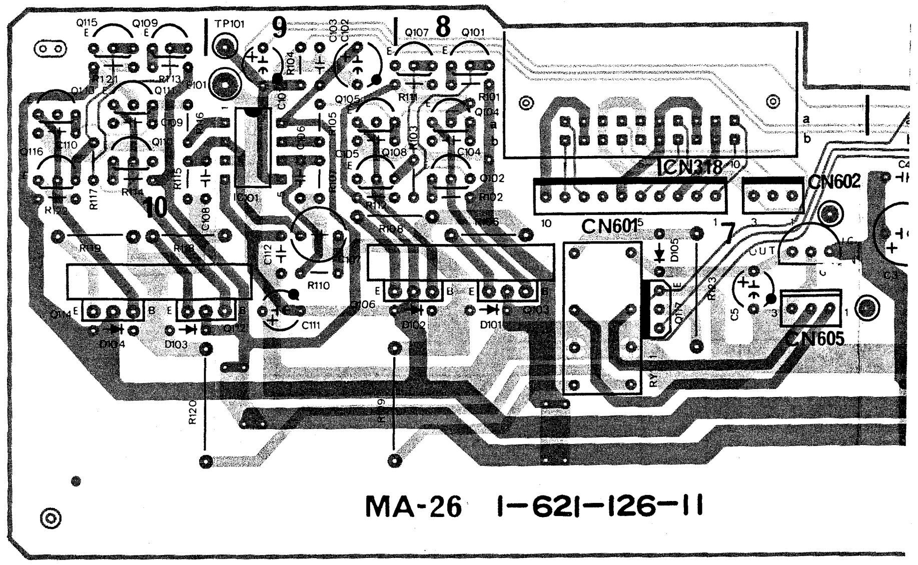

PRIMARY CIRCUIT
CN104
SP-01,102-1
SP-01,102-2
+B
RETURN
L101
C101 560 400V
C102 0.22 400V
C103 0.22 400V
C108 560 400V
C109 4.7 250V
C110 4.7 250V
C107 1000P 250V
C106 1000P 250V
C104 1000P 250V
D109 F114F
D110 F114F
Q101,102 2SC2307
Q103,104 2SD773
Q105,106 2SC2370
Q107,108 2SD773
T101
T102
T103
T104
T105
T106
T107
T108
R101 100 (5W)
C119 470P 500V
C111 470P 500V
R106 100 5W
C116 470P 500V
C120 470P 500V
+B
0V
C201 100P 500V
D201 FML-32S
70KHz
L201
C202 100P 500V
C203 3900 16V
C208 100P 500V
D205 FML-22S
C210 3300 25V
D233(-12) D224(-11) FML-22S
C209 100P 500V
L202
C205 1000 16V
C212 1000 25V
L203
L204
+13V REG
D271-D274 ERA81-004
L271 10μH
IC271 MB3759
Q274 2SA1175
Q273 2SK422
Q271 2SD774
Q272 2SD774
R273 1K 1/4W
UR-20-C2 ASSY(UR-09-C2 BOARD)
RV271; +13V SOL ADJ (SOLENOID, BLOWER)
R233 6.8 (1/2W)
C216 0.1
C217 0.022 50V
R234 68 (5W)
R235 68(5W)
R236 68(5W)
D208 RD33ESB
D209 RD33ESB
C225 100P 500V
D212 CTG-33S
L205
L206
C227 2200 25V
C228 2200 25V
C229 470 25V
C243 0.22
R269 220 5W
C226 100P 500V
C230 100P 500V
D213 CTG-33R
C232 2200 25V
C233 2200 25V
C234 470 25V
C244 0.22
L207
L208
C231 100P 500V
+18V REG
D571-D574 ERA81-004
IC171 MB3759
Q574 2SA1175
Q573 2SK442
Q571 2SD774
Q572 2SD774
R573 1K 1/4W
UR-20-C5 ASSY(CR-18-C5 BOARD)
RV571; +18V ADJ
R247 6.8 1/2W
C235 0.1 50V
C236 4700P
R248 100 5W
R249 100 5W
R250 100 5W
D214 RD33EB
D215 RD33EB
C114 4.7 250V
C115 4.7 250V
D111 F114F
D112 F114F
NON FRAMMABLE RESISTOR
Q201 2SD1707
Q202 2SD1020
Q203 2SB810
IC202
+12V
F201 130°C
R201 15 5W
Q206 2SD1020
Q205 2SB810
Q204 2SB1155
F202 130°C
R217 15 5W
L209
L210
Q211,Q212,Q213 DTA114ES
POWER ACT DETECTOR
D216 RD30ESB
D218 RD22ESB
D227 RU-2M
RV203
205


+13V REG
UR-20-C2 ASSY(UR-09-C2 BOARD)
IC271 MB3759
Q271 2SD774
Q272 2SD774
Q274 2SA1175
Q273 2SK422
RV271; +13V SOL ADJ (SOLENOID, BLOWER)
+18V REG
UR-20-C5 ASSY(CR-18-C5 BOARD)
IC171 MB3759
Q571 2SD774
Q572 2SD774
Q574 2SA1175
Q573 2SK442
RV571; +18V ADJ
+12V REG
Q201 2SD1707
Q202 2SD1020
Q203 2SB810
IC202 TL431CLP
Q214 2SD1020
IC201 μPC358C
IC207 TL431CLP
RV201 +12V ADJ
-12V REG
Q206 2SD1020
Q205 2SB810
Q204 2SB1155
IC203 μPC358C
IC204 TL431CLP
Q215 2SB810
RV202 -12V ADJ
IC206 STR9012
FAN CONPANE REG
POWER ACT DETECTOR
Q211, Q212, Q213 DTA114ES
IC205 μPC358C
Q207 DTC114ES
Q208 DTC114ES
Q209 DTC114ES
Q210 DTC114ES
RV203; LINE VOLTAGE (LOW) DET
70KHz
T101
T102
T103
T104
T105
T106
T107
T108
M9 FAN MOTOR
TS1 80°C
TS2 90°C
CN907
+18V 4 MB,325-4
+12V SENSE 5 MB,325-5
+12V 13 MB,325-13
GND SENSE 9 MB,325-9
GND 6 MB,325-6
GND 7 MB,325-7
GND 14 MB,325-14
GND 15 MB,325-15
CN207 LVP 2 7 SP-01,203-7
+12V (FAN) 10 MB,325-10
+12V (CON) 11 MB,325-11
-12V 17 MB,325-17
-12V SENSE 8 MB,325-8
-18V 16 MB,325-16
+13V (SOL) 12 MB,325-12
CN206 +12V (FAN) 1
2
RETURN (FAN) 3
RETURN (FAN) 1 MB,325-1
RETURN (CON) 2 MB,325-2
RETURN (SOL) 3 MB,325-3
CN208 RETURN 1
OHS1 2
RETURN 3
OHS2 4
CN207 OHS2 5 SP-01,203-5
OHS1 4 SP-01,203-4
CN906 POWER OVER HEAT 1 MB,330-7A
CN207 SYNC 1 SP-01,203-1
+17V 2 SP-01,203-2
RETURN 3 SP-01,203-3
CN207 LVP1 6 SP-01,203-6
CN906 PW ACT (SYS) 2 MB,330-7B
CN906 PW ACT (VID) 3 MB,330-8A
CN906 PW ACT (AUD) 4 MB,330-8B
RETURN 5
CN207 STOP 8 SP-01,203-8
9
10

SP-03 BOARD
BOARD NO. 1-621-604-11,12
BVH-3000(J) ; #10001-
BVH-3000(U/C); #10001-
BVH-3000PS ; #10001-
BVH-3100(J) ; #10001-
BVH-3100(U/C); #10001-
BVH-3100PS ; #10001-

MA-26 BOARD (1-621-126-11)

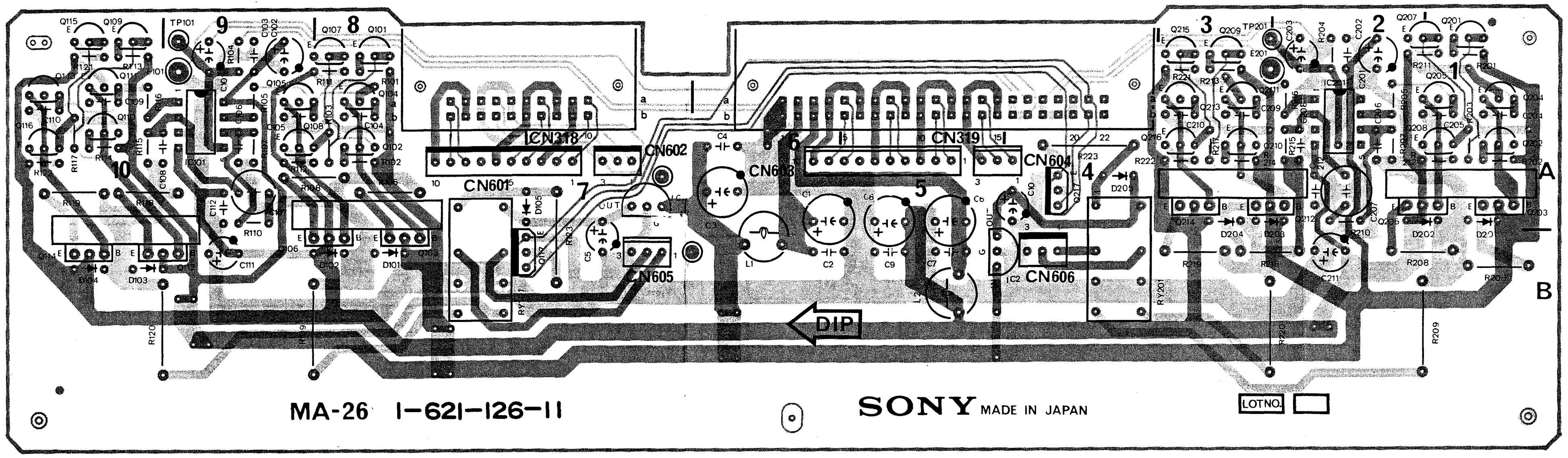
Component Side


Q115
Q109
TP101
9
8
Q107
Q101
Q105
Q108
Q104
Q102
R101
R102
R110
R115
R117
R120
C110
C111
C112
C104
D101
D102
D103
D104
10
CN318
CN601
CN602
CN605
7
OUT
MA-26 1-621-126-11

1-621-126-11 COMPONENT SIDE

MA-26 BOARD (1-621-126-11)

Component Side

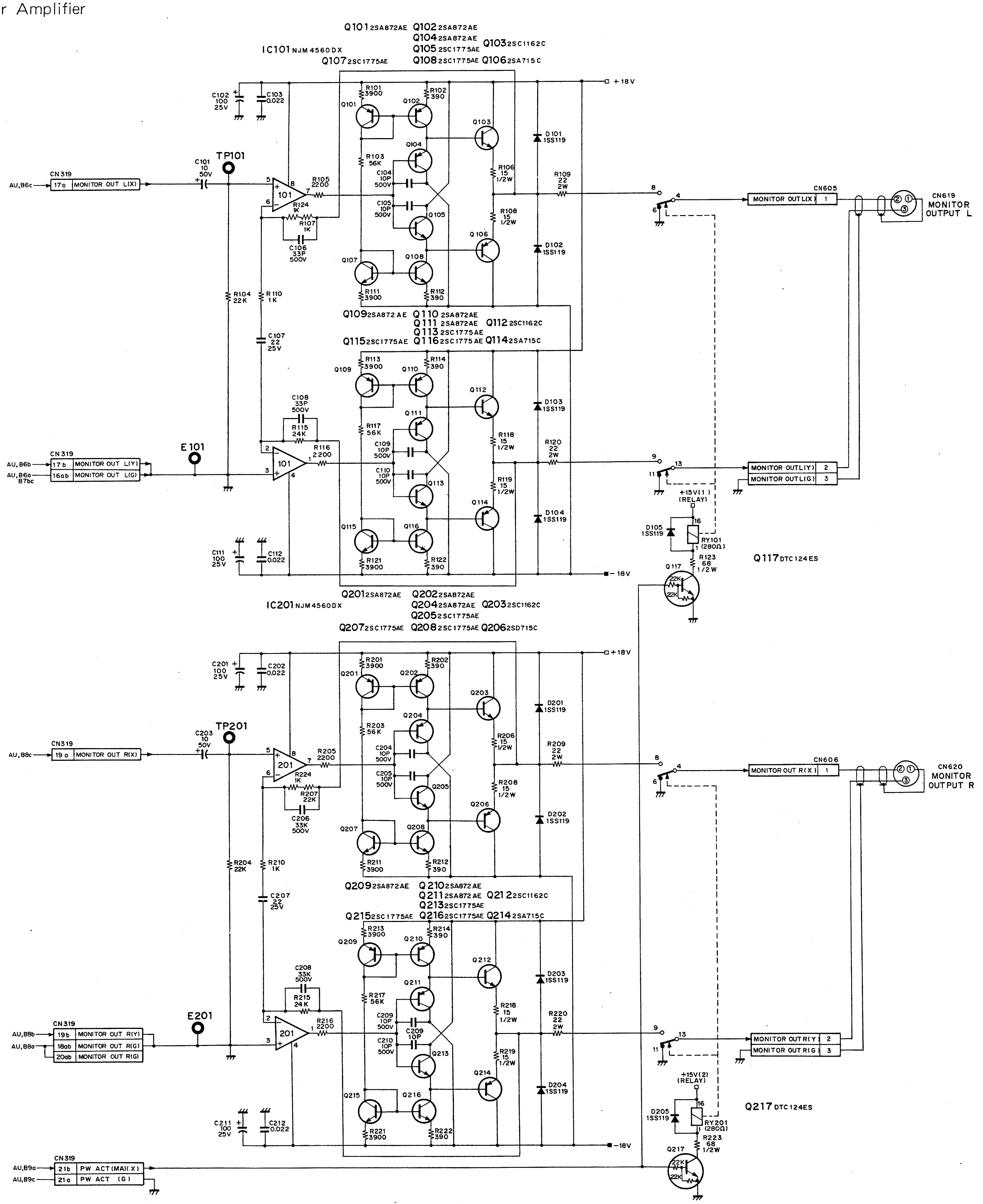

Q115
Q109
TP101
9
8
Q107
Q101
Q110
Q111
Q116
R117
R118
10
Q108
Q105
D102
D101
D103
D104
R110
C111
R120
CN318
CN601
CN602
7
D105
Q102
C5
CN605
C4
CN603
6
C3
L1
C1
C2
C8
C9
5
C7
L2
C6
C10
CN319
CN604
4
Q217
R223
R222
D201
CN606
RY201
3
Q215
Q209
TP201
2
Q207
Q201
1
Q213
Q210
Q214
D204
D203
C211
R216
R208
R209
D202
D201
A
B
DIP
MA-26 I-621-126-11
SONY MADE IN JAPAN
LOT NO.

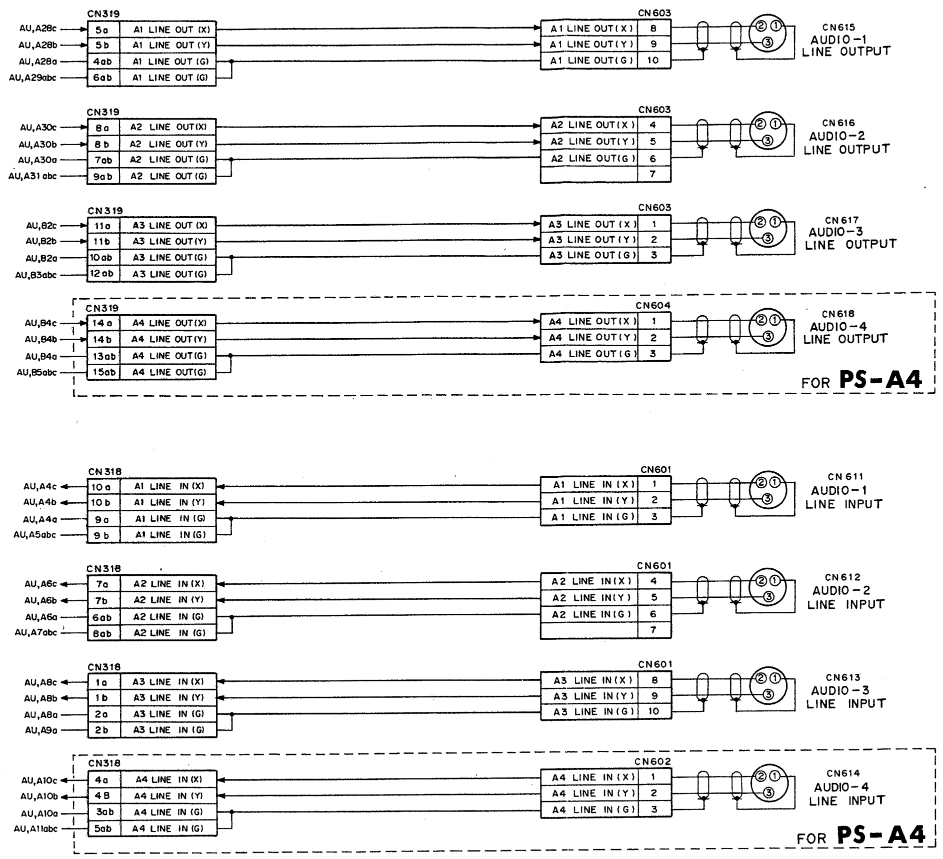
1-621-126-11 COMPONENT SIDE

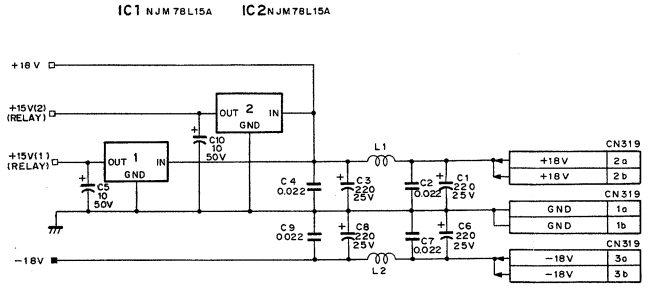
1-621-126-11 SOLDER SIDE

MA-26 BOARD

Audio Monitor Amplifier


IC101 NJM4560DX
Q101 2SA872AE Q102 2SA872AE
Q104 2SA872AE Q103 2SC1162C
Q105 2SC1775AE
Q107 2SC1775AE Q108 2SC1775AE Q106 2SA715C
Q109 2SA872AE Q110 2SA872AE
Q111 2SA872AE Q112 2SC1162C
Q113 2SC1775AE
Q115 2SC1775AE Q116 2SC1775AE Q114 2SA715C
IC201 NJM4560DX
Q201 2SA872AE Q202 2SA872AE
Q204 2SA872AE Q203 2SC1162C
Q205 2SC1775AE
Q207 2SC1775AE Q208 2SC1775AE Q206 2SD715C
Q209 2SA872AE Q210 2SA872AE
Q211 2SA872AE Q212 2SC1162C
Q213 2SC1775AE
Q215 2SC1775AE Q216 2SC1775AE Q214 2SA715C
+18V
-18V
TP101
E101
TP201
E201
CN319
MONITOR OUT L(X)
MONITOR OUT L(Y)
MONITOR OUT L(G)
MONITOR OUT R(X)
MONITOR OUT R(Y)
MONITOR OUT R(G)
PW ACT(MAIX)
PW ACT (G)
CN605
MONITOR OUT L(X)
MONITOR OUT L(Y)
MONITOR OUT L(G)
CN619 MONITOR OUTPUT L
CN606
MONITOR OUT R(X)
MONITOR OUT R(Y)
MONITOR OUT R(G)
CN620 MONITOR OUTPUT R
+15V(1) (RELAY)
+15V(2) (RELAY)
RY101 (280Ω)
RY201 (280Ω)
D105 1SS119
D205 1SS119
Q117 DTC124ES
Q217 DTC124ES
R123 68 1/2W
R223 68 1/2W

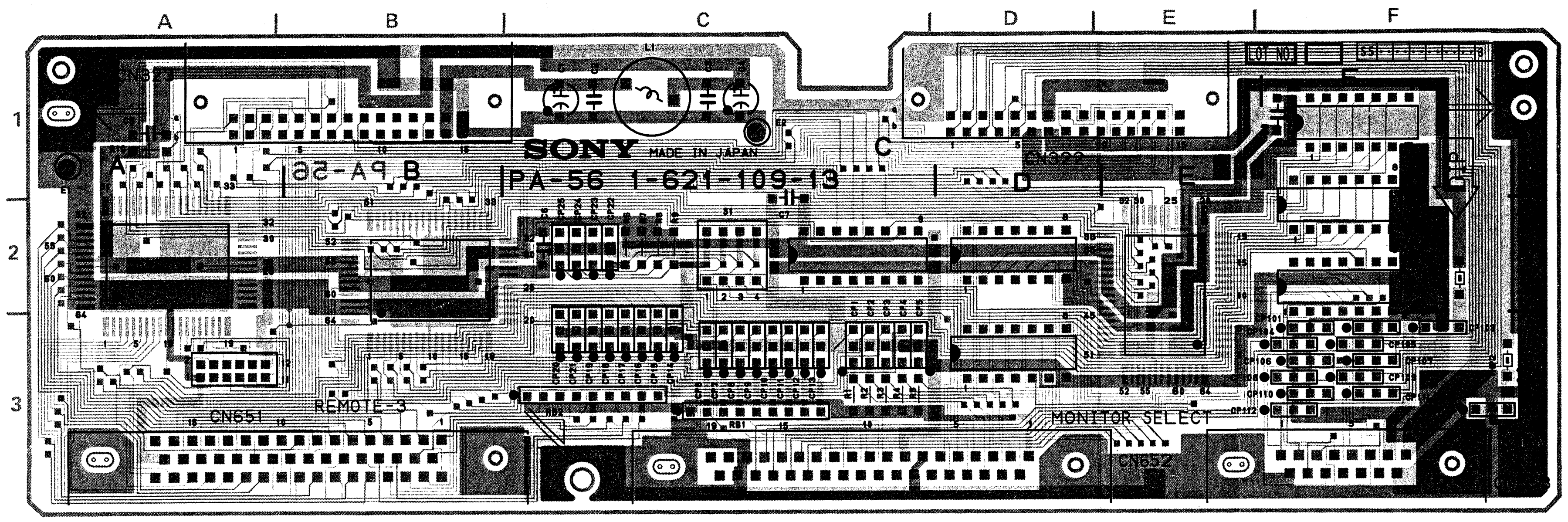

CN319
A1 LINE OUT (X)
A1 LINE OUT (Y)
A1 LINE OUT (G)
CN603
CN615 AUDIO-1 LINE OUTPUT
A2 LINE OUT (X)
A2 LINE OUT (Y)
A2 LINE OUT (G)
CN616 AUDIO-2 LINE OUTPUT
A3 LINE OUT (X)
A3 LINE OUT (Y)
A3 LINE OUT (G)
CN617 AUDIO-3 LINE OUTPUT
CN604
A4 LINE OUT (X)
A4 LINE OUT (Y)
A4 LINE OUT (G)
CN618 AUDIO-4 LINE OUTPUT
FOR PS-A4
CN318
A1 LINE IN (X)
A1 LINE IN (Y)
A1 LINE IN (G)
CN601
CN611 AUDIO-1 LINE INPUT
A2 LINE IN (X)
A2 LINE IN (Y)
A2 LINE IN (G)
CN612 AUDIO-2 LINE INPUT
A3 LINE IN (X)
A3 LINE IN (Y)
A3 LINE IN (G)
CN613 AUDIO-3 LINE INPUT
CN602
A4 LINE IN (X)
A4 LINE IN (Y)
A4 LINE IN (G)
CN614 AUDIO-4 LINE INPUT
FOR PS-A4


IC1 NJM78L15A
IC2 NJM78L15A
+18V
+15V(2) (RELAY)
+15V(1) (RELAY)
-18V
OUT 2 IN GND
OUT 1 IN GND
C10 10 50V
C5 10 50V
C4 0.022
C3 220 25V
C2 0.022
C1 220 25V
C9 0.022
C8 220 25V
C7 0.022
C6 220 25V
L1
L2
CN319
+18V 2a
+18V 2b
GND 1a
GND 1b
-18V 3a
-18V 3b

MA-26 BOARD
BOARD NO. 1-621-126-11
BVH-3000(J) ; # 10001-
BVH-3000(U/C); # 10001-
BVH-3000PS ; # 10001-
BVH-3100(J) ; # 10001-
BVH-3100(U/C); # 10001-
BVH-3100PS ; # 10001-

PA-56 **BOARD** (1-621-109-13)

Component Side


A
B
C
D
E
F
1
2
3
SONY
MADE IN JAPAN
PA-56 1-621-109-13
PA-56
CN322
CN651
REMOTE-3
MONITOR SELECT
CN652

1-621-109-13 COMPONENT SIDE

1-621-109-13 SOLDER SIDE

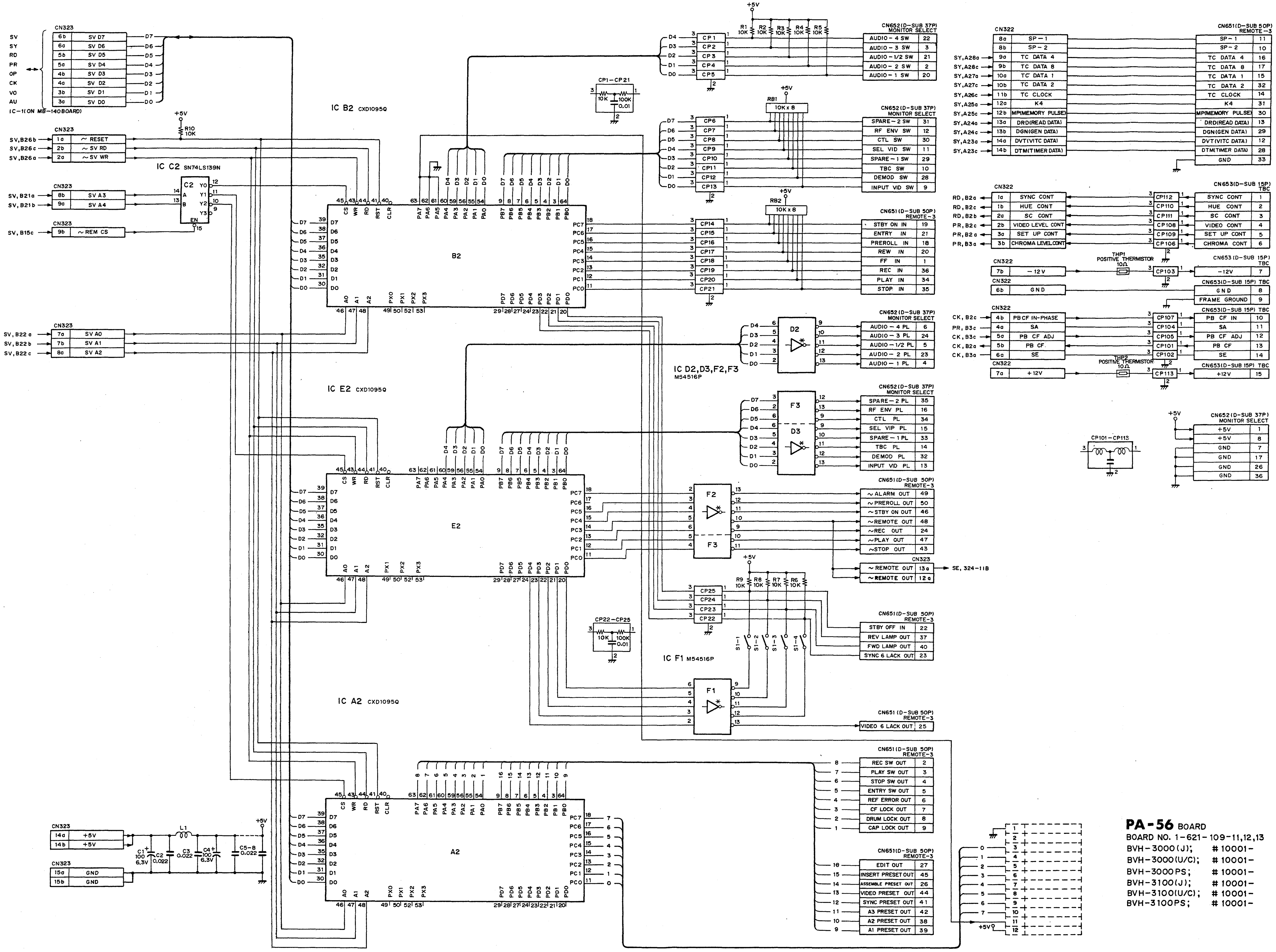
PA-56 (1-621-109-13)

BVH-3000/PS
BVH-3100/PS

CN322	D1
CN323	A1
CN651	A3
CN652	E3
CN653	F3
CP1	C3
CP2	C3
CP3	C3
CP4	C3
CP5	C3
CP6	C3
CP7	C3
CP8	C3
CP9	C3
CP10	C3
CP11	C3
CP12	C3
CP13	C3
CP14	C3
CP15	C3
CP16	C3
CP17	C3
CP18	C3
CP19	C3
CP20	C3
CP21	C3
CP22	C2
CP23	C2
CP24	C2
CP25	C2
CP101	F3
CP102	F3
CP103	F3
CP104	F3
CP105	F3
CP106	F3
CP107	F3
CP108	F3
CP109	F3
CP110	F3
CP111	F3
CP112	F3
CP113	F3
E1	A1
E2	C1
E3	F2
THP1	F2
THP2	F3
RB1	C3
RB2	C3
S1	C2

PA-56 BOARD

Parallel Remote

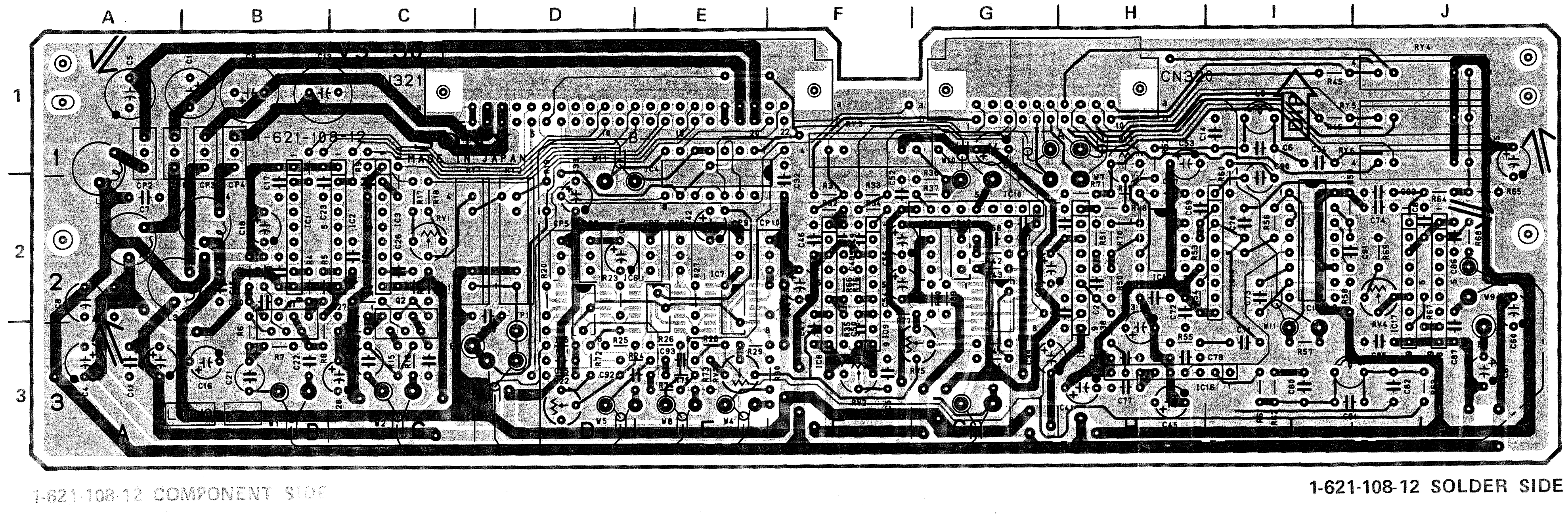

CN323
SV D7
SV D6
SV D5
SV D4
SV D3
SV D2
SV D1
SV D0
IC-1(ON MB-140BOARD)
~ RESET
~ SV RD
~ SV WR
SV A3
SV A4
~ REM CS
SV A0
SV A1
SV A2
IC B2 CXD1095Q
IC C2 SN74LS139N
IC E2 CXD1095Q
IC A2 CXD1095Q
B2
E2
A2
IC D2,D3,F2,F3 M54516P
IC F1 M54516P
D2
D3
F2
F3
F1
R1 10K
R2 10K
R3 10K
R4 10K
R5 10K
R10 10K
RB1 10K x 8
RB2 10K x 8
R6 10K
R7 10K
R8 10K
R9 10K
CP1-CP21
CP22-CP25
CP101-CP113
10K
100K
0.01
+5V
CN652(D-SUB 37P) MONITOR SELECT
AUDIO-4 SW
AUDIO-3 SW
AUDIO-1/2 SW
AUDIO-2 SW
AUDIO-1 SW
SPARE-2 SW
RF ENV SW
CTL SW
SEL VID SW
SPARE-1 SW
TBC SW
DEMOD SW
INPUT VID SW
CN651(D-SUB 50P) REMOTE-3
STBY ON IN
ENTRY IN
PREROLL IN
REW IN
FF IN
REC IN
PLAY IN
STOP IN
AUDIO-4 PL
AUDIO-3 PL
AUDIO-1/2 PL
AUDIO-2 PL
AUDIO-1 PL
SPARE-2 PL
RF ENV PL
CTL PL
SEL VIP PL
SPARE-1 PL
TBC PL
DEMOD PL
INPUT VID PL
~ALARM OUT
~PREROLL OUT
~STBY ON OUT
~REMOTE OUT
~REC OUT
~PLAY OUT
~STOP OUT
~REMOTE OUT
~REMOTE OUT
SE, 324-11B
STBY OFF IN
REV LAMP OUT
FWD LAMP OUT
SYNC 6 LACK OUT
VIDEO 6 LACK OUT
S1-1
S1-2
S1-3
S1-4
REC SW OUT
PLAY SW OUT
STOP SW OUT
ENTRY SW OUT
REF ERROR OUT
CF LOCK OUT
DRUM LOCK OUT
CAP LOCK OUT
EDIT OUT
INSERT PRESET OUT
ASSEMBLE PRESET OUT
VIDEO PRESET OUT
SYNC PRESET OUT
A3 PRESET OUT
A2 PRESET OUT
A1 PRESET OUT
CN322
SP-1
SP-2
TC DATA 4
TC DATA 8
TC DATA 1
TC DATA 2
TC CLOCK
K4
MPIMEMORY PULSE
DRD(READ DATA)
DGN(GEN DATA)
DVT(VITC DATA)
DTM(TIMER DATA)
GND
CN651(D-SUB 50P) REMOTE-3
CN653(D-SUB 15P) TBC
SYNC CONT
HUE CONT
SC CONT
VIDEO LEVEL CONT
SET UP CONT
CHROMA LEVEL CONT
VIDEO CONT
CHROMA CONT
THP1 POSITIVE THERMISTOR 10Ω
THP2 POSITIVE THERMISTOR 10Ω
-12V
GND
FRAME GROUND
PBCF IN-PHASE
SA
PB CF ADJ
PB CF
SE
PB CF IN
+12V
CN652(D-SUB 37P) MONITOR SELECT
+5V
GND
L1
C1 100 6.3V
C2 0.022
C3 0.022
C4 100 6.3V
C5-8 0.022
+5V
GND

PA-56 BOARD
BOARD NO. 1-621-109-11,12,13

BVH-3000(J);	#10001-
BVH-3000(U/C);	#10001-
BVH-3000PS;	#10001-
BVH-3100(J);	#10001-
BVH-3100(U/C);	#10001-
BVH-3100PS;	#10001-

VS-30 BOARD (1-621-108-12)

Component Side


A
B
C
D
E
F
G
H
I
J
1
2
3
CN321
CN320
1-621-108-12
MADE IN JAPAN
1-621 108-12 COMPONENT SIDE
1-621-108-12 SOLDER SIDE

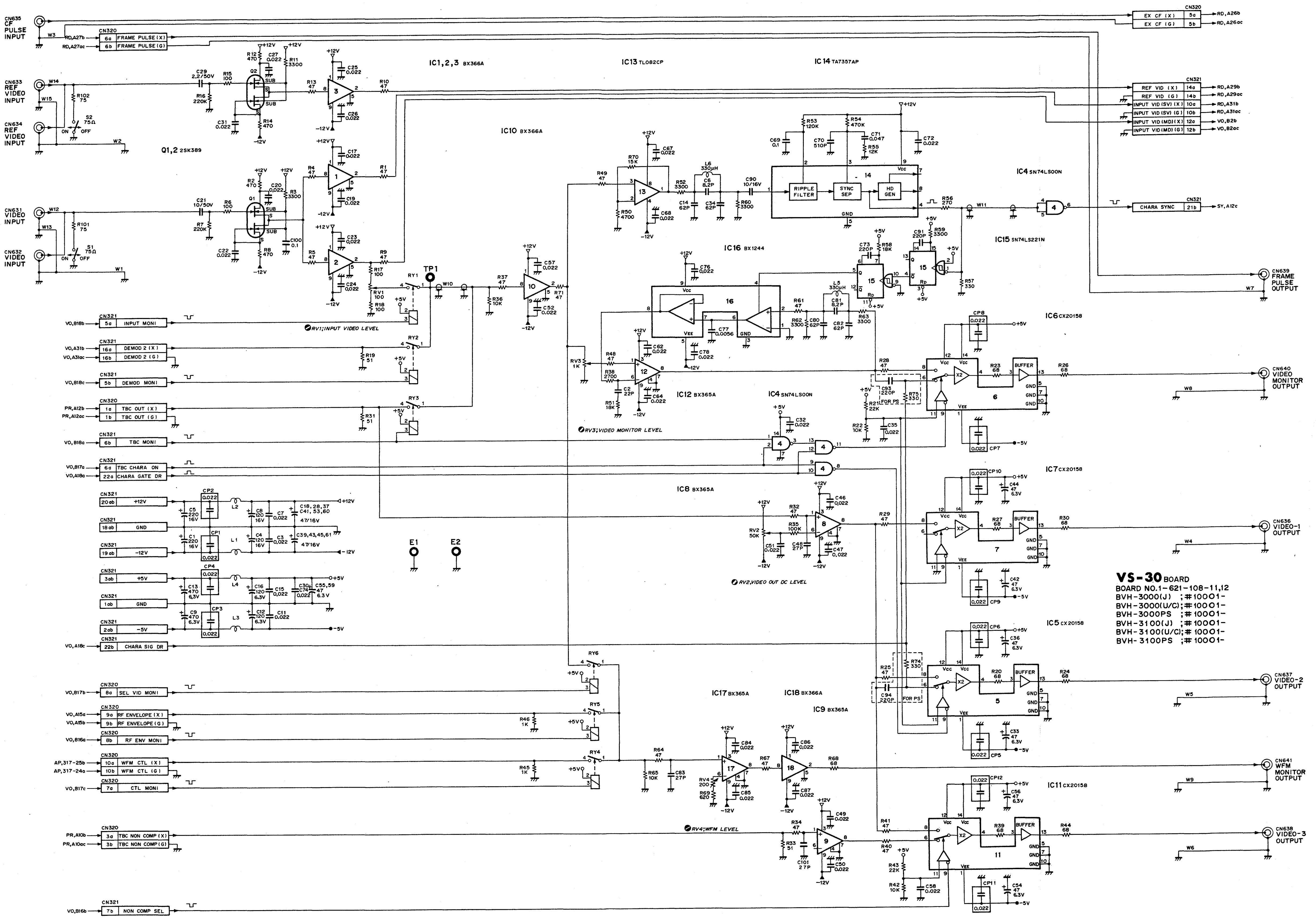
VS-30 (1-621-108-12)

BVH-3000/PS
BVH-3100/PS

CN320	H1
CN321	C1
CP1	A1
CP2	A1
CP3	B1
CP4	B1
CP5	D2
CP6	D2
CP7	E2
CP8	E2
CP9	E2
CP10	F2
CP11	G2
CP12	G2
E1	C3
E2	J2
IC1	B2
IC2	C2
IC3	C2
IC4	E1
IC5	D3
IC6	E2
IC7	E2
IC8	F3
IC9	F3
IC10	G2
IC11	G3
IC12	H3
IC13	H2
IC14	I2
IC15	I2
IC16	H3
IC17	J3
IC18	J3
L1	A2
L2	A2
L3	A2
L4	B2
L5	I3
L6	I1
Q1	B2
Q2	C2
RV1	C2
RV2	F3
RV3	H1
RV4	J2
RV5	G3
RV6	D3
RV7	E3
RY1	D2
RY2	D2
RY3	F1
RY4	J1
RY5	J1
RY6	J1
TP1	D3

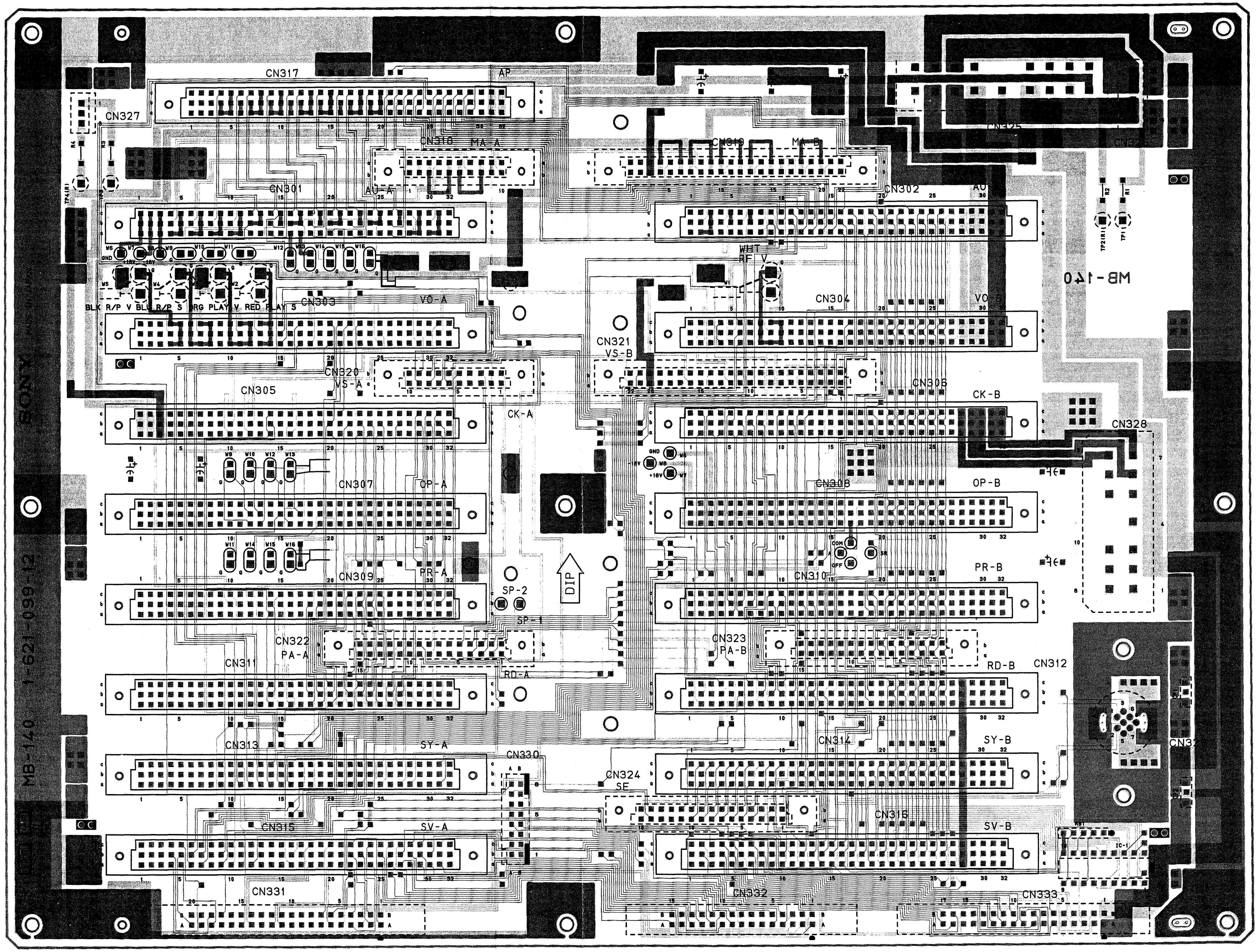
VS-30 BOARD

Video Monitor


CN635 CF PULSE INPUT
CN633 REF VIDEO INPUT
CN634 REF VIDEO INPUT
CN631 VIDEO INPUT
CN632 VIDEO INPUT
CN320
FRAME PULSE (X)
FRAME PULSE (G)
IC1,2,3 BX366A
IC13 TL082CP
IC14 TA7357AP
IC10 BX366A
Q1,2 2SK389
IC4 SN74LS00N
IC15 SN74LS221N
IC16 BX1244
IC12 BX365A
IC8 BX365A
IC6 CX20158
IC7 CX20158
IC5 CX20158
IC11 CX20158
IC17 BX365A
IC18 BX366A
IC9 BX365A
RIPPLE FILTER
SYNC SEP
HD GEN
BUFFER
TP1
E1
E2
EX CF (X)
EX CF (G)
REF VID (X)
REF VID (G)
INPUT VID (SV) (X)
INPUT VID (SV) (G)
INPUT VID (MD) (X)
INPUT VID (MD) (G)
CHARA SYNC
CN639 FRAME PULSE OUTPUT
CN640 VIDEO MONITOR OUTPUT
CN636 VIDEO-1 OUTPUT
CN637 VIDEO-2 OUTPUT
CN641 WFM MONITOR OUTPUT
CN638 VIDEO-3 OUTPUT
INPUT MONI
DEMOD 2 (X)
DEMOD 2 (G)
DEMOD MONI
TBC OUT (X)
TBC OUT (G)
TBC MONI
TBC CHARA ON
CHARA GATE DR
CHARA SIG DR
SEL VID MONI
RF ENVELOPE (X)
RF ENVELOPE (G)
RF ENV MONI
WFM CTL (X)
WFM CTL (G)
CTL MONI
TBC NON COMP (X)
TBC NON COMP (G)
NON COMP SEL
RV1; INPUT VIDEO LEVEL
RV3; VIDEO MONITOR LEVEL
RV2; VIDEO OUT DC LEVEL
RV4; WFM LEVEL
FOR PS

VS-30 BOARD
BOARD NO.1-621-108-11,12
BVH-3000(J) ;#10001-
BVH-3000(U/C);#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C);#10001-
BVH-3100PS ;#10001-

MB-140 **BOARD (1-621-099-12)**
Component Side

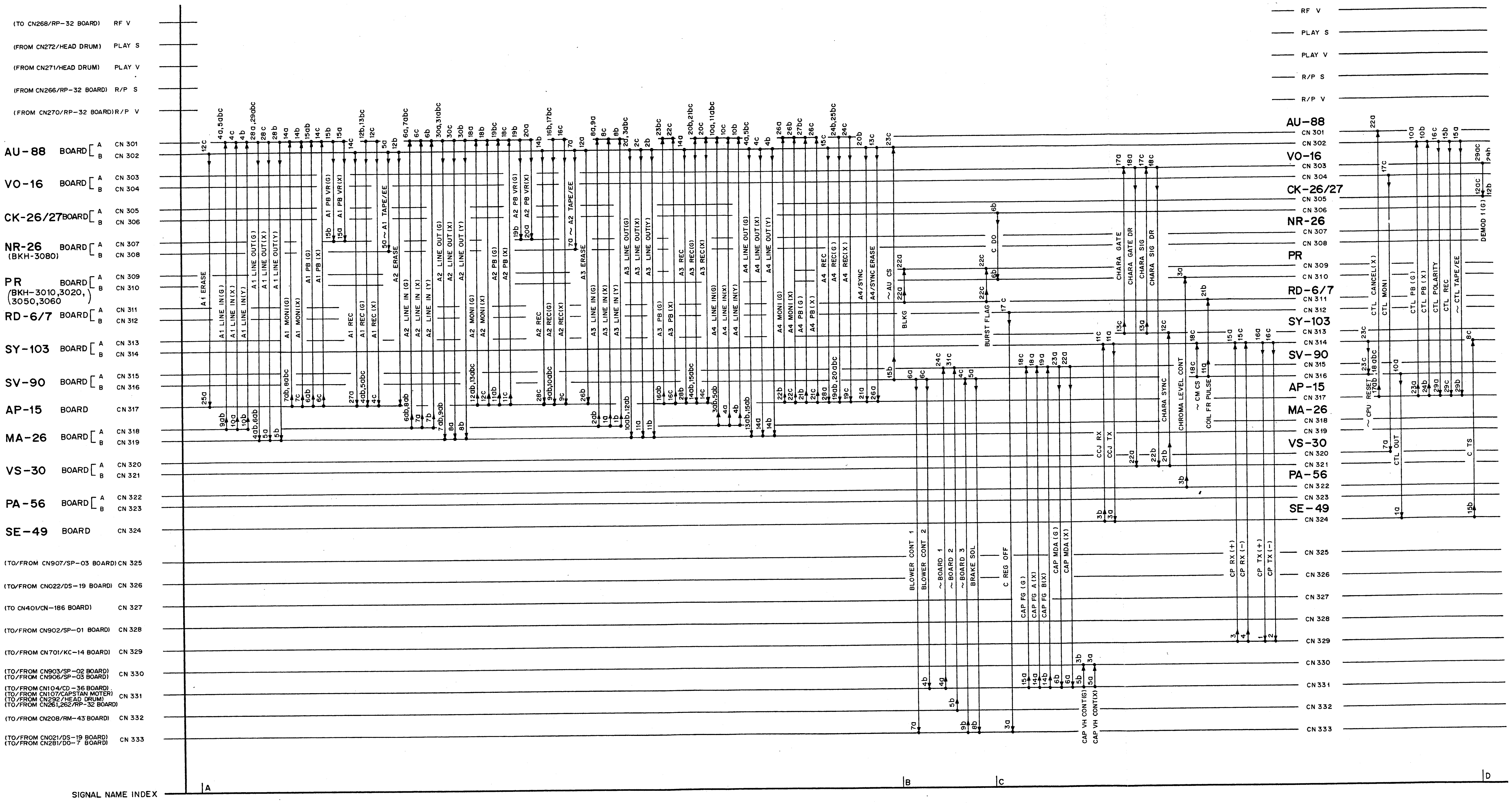

CN317
AP
CN327
CN318
MA-A
CN319
MA-B
CN325
CN301
AU-A
CN302
AU
WHT
RF V
CN303
VO-A
CN304
VO-B
MB-140
CN321
VS-B
CN320
VS-A
CN305
CK-A
CN306
CK-B
CN328
CN307
OP-A
CN308
OP-B
CN309
PR-A
CN310
PR-B
SP-2
SP-1
DIP
CN322
PA-A
CN323
PA-B
CN311
RD-A
RD-B
CN312
CN313
SY-A
CN314
SY-B
CN330
CN324
SE
CN315
SV-A
CN316
SV-B
CN331
CN332
CN333
IC-1
BLK R/P V BLU R/P S ORG PLAY V RED PLAY S
SONY
1-621-099-12
MB-140

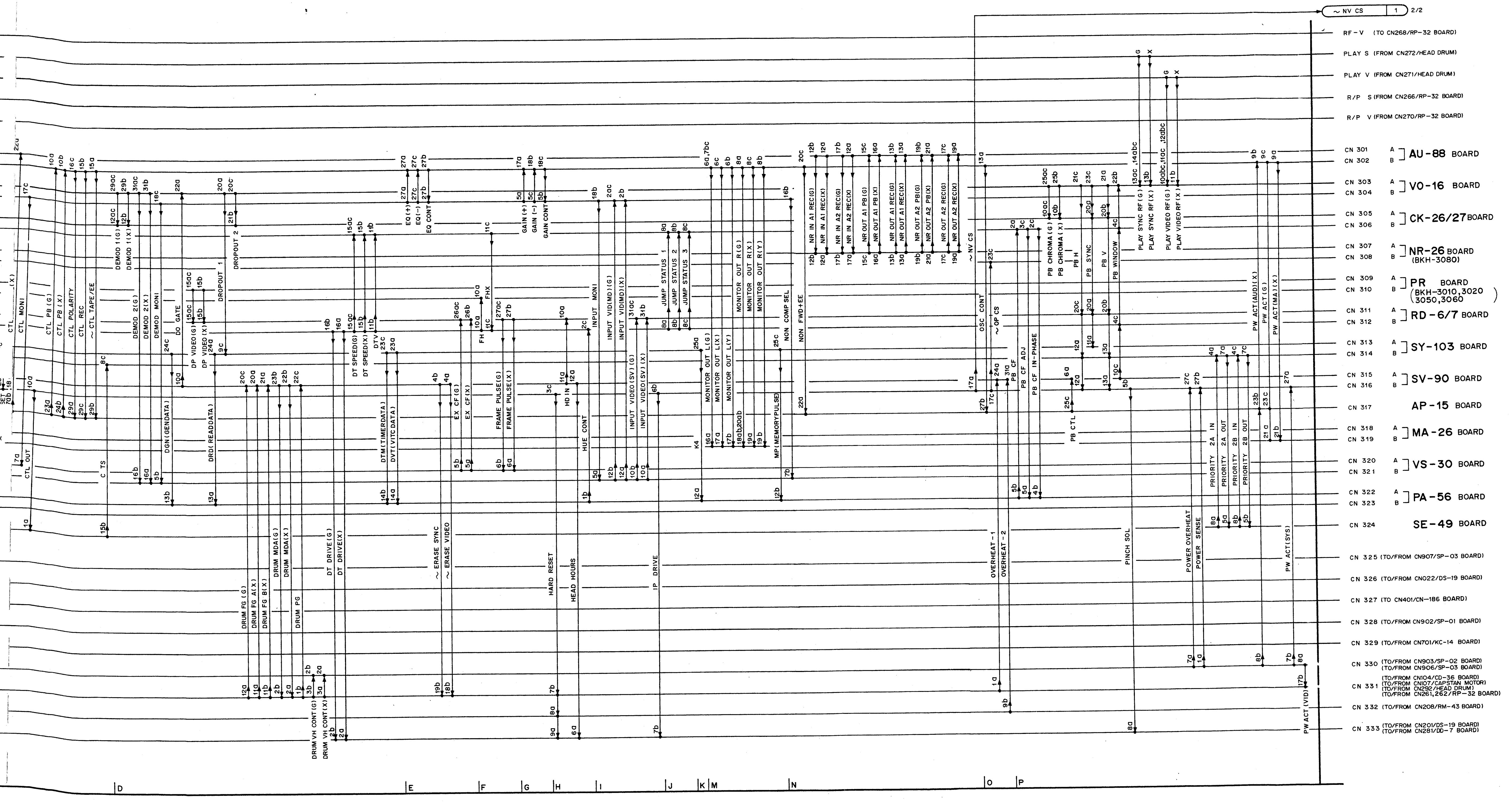
1-621-099-12 COMPONENT SIDE

1-621-099-12 SOLDER SIDE

MB-140 BOARD (1/2)

Mother Board


(TO CN268/RP-32 BOARD) RF V
(FROM CN272/HEAD DRUM) PLAY S
(FROM CN271/HEAD DRUM) PLAY V
(FROM CN266/RP-32 BOARD) R/P S
(FROM CN270/RP-32 BOARD) R/P V
AU-88 BOARD A CN 301 B CN 302
VO-16 BOARD A CN 303 B CN 304
CK-26/27 BOARD A CN 305 B CN 306
NR-26 (BKH-3080) BOARD A CN 307 B CN 308
PR (BKH-3010,3020, 3050,3060) BOARD A CN 309 B CN 310
RD-6/7 BOARD A CN 311 B CN 312
SY-103 BOARD A CN 313 B CN 314
SV-90 BOARD A CN 315 B CN 316
AP-15 BOARD CN 317
MA-26 BOARD A CN 318 B CN 319
VS-30 BOARD A CN 320 B CN 321
PA-56 BOARD A CN 322 B CN 323
SE-49 BOARD CN 324
(TO/FROM CN907/SP-03 BOARD) CN 325
(TO/FROM CN022/DS-19 BOARD) CN 326
(TO CN401/CN-186 BOARD) CN 327
(TO/FROM CN902/SP-01 BOARD) CN 328
(TO/FROM CN701/KC-14 BOARD) CN 329
(TO/FROM CN903/SP-02 BOARD) (TO/FROM CN906/SP-03 BOARD) CN 330
(TO/FROM CN104/CD-36 BOARD) (TO/FROM CN107/CAPSTAN MOTER) (TO/FROM CN292/HEAD DRUM) (TO/FROM CN261,262/RP-32 BOARD) CN 331
(TO/FROM CN208/RM-43 BOARD) CN 332
(TO/FROM CN021/DS-19 BOARD) (TO/FROM CN281/DO-7 BOARD) CN 333
SIGNAL NAME INDEX
A
B
C
D
A1 ERASE
A1 LINE IN (G)
A1 LINE IN (X)
A1 LINE IN (Y)
A1 LINE OUT (G)
A1 LINE OUT (X)
A1 LINE OUT (Y)
A1 MONI (G)
A1 MONI (X)
A1 PB (G)
A1 PB (X)
A1 PB VR (G)
A1 PB VR (X)
A1 TAPE/EE
A1 REC
A1 REC (G)
A1 REC (X)
A2 ERASE
A2 LINE IN (G)
A2 LINE IN (X)
A2 LINE IN (Y)
A2 LINE OUT (G)
A2 LINE OUT (X)
A2 LINE OUT (Y)
A2 MONI (G)
A2 MONI (X)
A2 PB (G)
A2 PB (X)
A2 PB VR (G)
A2 PB VR (X)
A2 REC
A2 REC (G)
A2 REC (X)
A2 TAPE/EE
A3 ERASE
A3 LINE IN (G)
A3 LINE IN (X)
A3 LINE IN (Y)
A3 LINE OUT (G)
A3 LINE OUT (X)
A3 LINE OUT (Y)
A3 PB (G)
A3 PB (X)
A3 REC
A3 REC (G)
A3 REC (X)
A4 LINE IN (G)
A4 LINE IN (X)
A4 LINE IN (Y)
A4 LINE OUT (G)
A4 LINE OUT (X)
A4 LINE OUT (Y)
A4 MONI (G)
A4 MONI (X)
A4 PB (G)
A4 PB (X)
A4 REC
A4 REC (G)
A4 REC (X)
A4/SYNC
A4/SYNC ERASE
AU CS
BLKG
C DO
BURST FLAG
CHARA GATE
CHARA GATE DR
CHARA SIG
CHARA SIG DR
CCJ RX
CCJ TX
CHARA SYNC
CHROMA LEVEL CONT
CM CS
COIL FR PULSE
BLOWER CONT 1
BLOWER CONT 2
BOARD 1
BOARD 2
BOARD 3
BRAKE SOL
C REG OFF
CAP FG (G)
CAP FG A (X)
CAP FG B (X)
CAP MDA (G)
CAP MDA (X)
CAP VH CONT (G)
CAP VH CONT (X)
CP RX (+)
CP RX (−)
CP TX (+)
CP TX (−)
CTL CANCEL (X)
CTL MONI
CTL PB (G)
CTL PB (X)
CTL POLARITY
CTL REC
CTL TAPE/EE
DEMOD I (G)
CPU RESET
CTL OUT
C TS


~ NV CS
1
2/2
RF－V (TO CN268/RP－32 BOARD)
PLAY S (FROM CN272/HEAD DRUM)
PLAY V (FROM CN271/HEAD DRUM)
R/P S (FROM CN266/RP－32 BOARD)
R/P V (FROM CN270/RP－32 BOARD)
CN 301 A
CN 302 B
AU－88 BOARD
CN 303 A
CN 304 B
VO－16 BOARD
CN 305 A
CN 306 B
CK－26/27 BOARD
CN 307 A
CN 308 B
NR－26 BOARD (BKH－3080)
CN 309 A
CN 310 B
PR BOARD (BKH－3010,3020 3050,3060)
CN 311 A
CN 312 B
RD－6/7 BOARD
CN 313 A
CN 314 B
SY－103 BOARD
CN 315 A
CN 316 B
SV－90 BOARD
CN 317
AP－15 BOARD
CN 318 A
CN 319 B
MA－26 BOARD
CN 320 A
CN 321 B
VS－30 BOARD
CN 322 A
CN 323 B
PA－56 BOARD
CN 324
SE－49 BOARD
CN 325 (TO/FROM CN907/SP－03 BOARD)
CN 326 (TO/FROM CN022/DS－19 BOARD)
CN 327 (TO CN401/CN－186 BOARD)
CN 328 (TO/FROM CN902/SP－01 BOARD)
CN 329 (TO/FROM CN701/KC－14 BOARD)
CN 330 (TO/FROM CN903/SP－02 BOARD) (TO/FROM CN906/SP－03 BOARD)
CN 331 (TO/FROM CN104/CD－36 BOARD) (TO/FROM CN107/CAPSTAN MOTOR) (TO/FROM CN292/HEAD DRUM) (TO/FROM CN261,262/RP－32 BOARD)
CN 332 (TO/FROM CN208/RM－43 BOARD)
CN 333 (TO/FROM CN201/DS－19 BOARD) (TO/FROM CN281/DD－7 BOARD)
CTL
CTL MONI
CTL PB (G)
CTL PB (X)
CTL POLARITY
CTL REC
~ CTL TAPE/EE
CTL OUT
C TS
DEMOD 1 (G)
DEMOD 1 (X)
DEMOD 2 (G)
DEMOD 2 (X)
DEMOD MONI
DGN (GENDATA)
DO GATE
DP VIDEO (G)
DP VIDEO (X)
DROPOUT 1
DROPOUT 2
DRD (READDATA)
DRUM FG (G)
DRUM FG A (X)
DRUM FG B (X)
DRUM MDA (G)
DRUM MDA (X)
DRUM PG
DRUM VH CONT (G)
DRUM VH CONT (X)
DT DRIVE (G)
DT DRIVE (X)
DT SPEED (G)
DT SPEED (X)
DTV
DTM (TIMERDATA)
DVT (VITC DATA)
EQ (+)
EQ (－)
EQ CONT
~ ERASE SYNC
~ ERASE VIDEO
EX CF (G)
EX CF (X)
FH
FHX
FRAME PULSE (G)
FRAME PULSE (X)
GAIN (+)
GAIN (－)
GAIN CONT
HD IN
HARD RESET
HEAD HOURS
HUE CONT
INPUT MONI
INPUT VID (MD) (G)
INPUT VID (MD) (X)
INPUT VIDEO (SV) (G)
INPUT VIDEO (SV) (X)
IP DRIVE
JUMP STATUS 1
JUMP STATUS 2
JUMP STATUS 3
K4
MONITOR OUT L (G)
MONITOR OUT L (X)
MONITOR OUT L (Y)
MONITOR OUT R (G)
MONITOR OUT R (X)
MONITOR OUT R (Y)
MP (MEMORYPULSE)
NON COMP SEL
NON FWD+EE
NR IN A1 REC (G)
NR IN A1 REC (X)
NR IN A2 REC (G)
NR IN A2 REC (X)
NR OUT A1 PB (G)
NR OUT A1 PB (X)
NR OUT A1 REC (G)
NR OUT A1 REC (X)
NR OUT A2 PB (G)
NR OUT A2 PB (X)
NR OUT A2 REC (G)
NR OUT A2 REC (X)
~ NV CS
OSC CONT
~ OP CS
OVERHEAT－1
OVERHEAT－2
PB CF
PB CF ADJ
PB CF IN－PHASE
PB CHROMA (G)
PB CHROMA (X)
PB H
PB SYNC
PB V
PB WINDOW
PB CTL
PINCH SOL
PLAY SYNC RF (G)
PLAY SYNC RF (X)
PLAY VIDEO RF (G)
PLAY VIDEO RF (X)
POWER OVERHEAT
POWER SENSE
PRIORITY 2A IN
PRIORITY 2A OUT
PRIORITY 2B IN
PRIORITY 2B OUT
PW ACT (AUD) (X)
PW ACT (G)
PW ACT (MA) (X)
PW ACT (SYS)
PW ACT (VID)
G
X
D
E
F
G
H
I
J
K
M
N
O
P

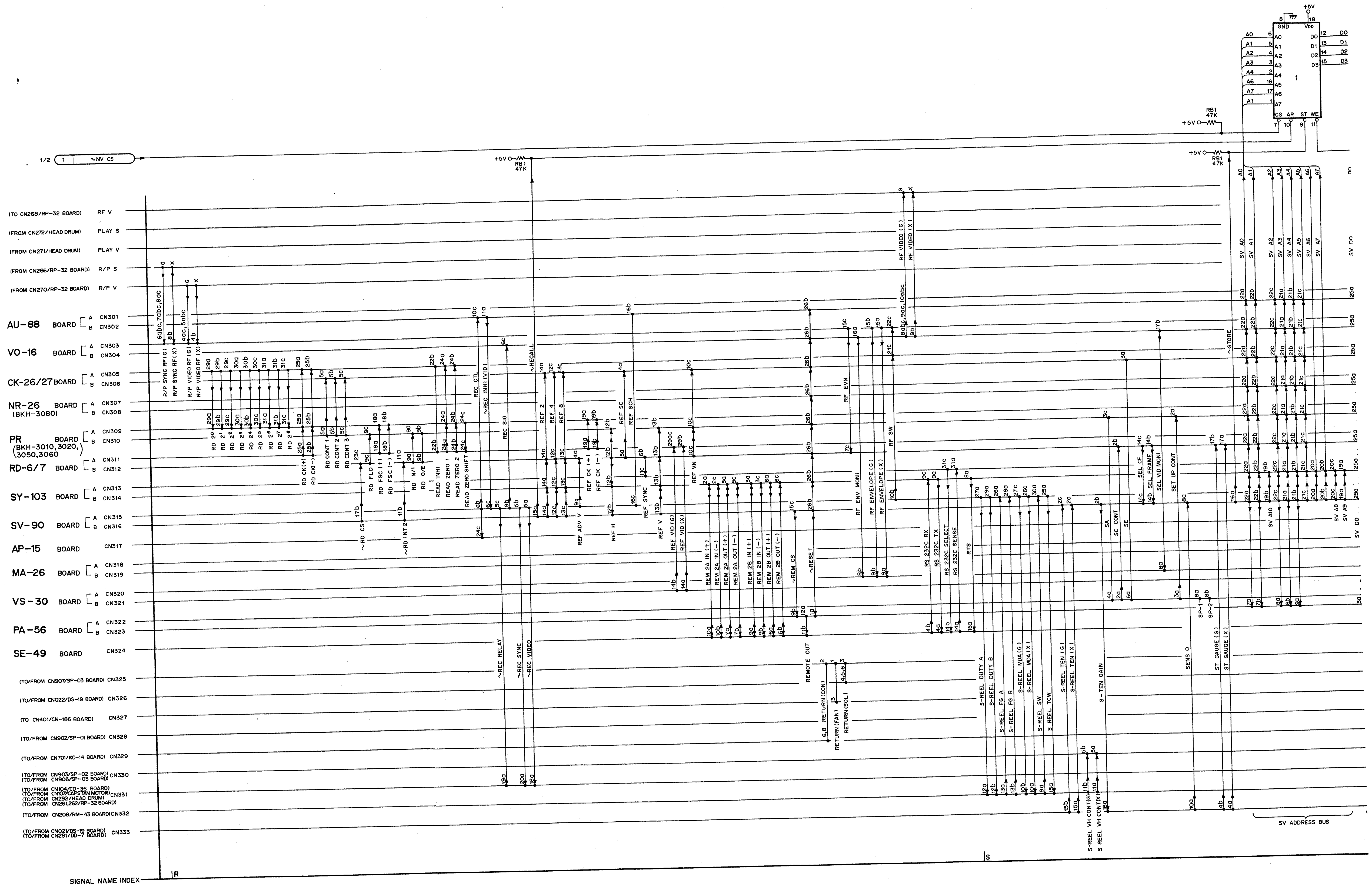
MB-140 BOARD **(1/2)**

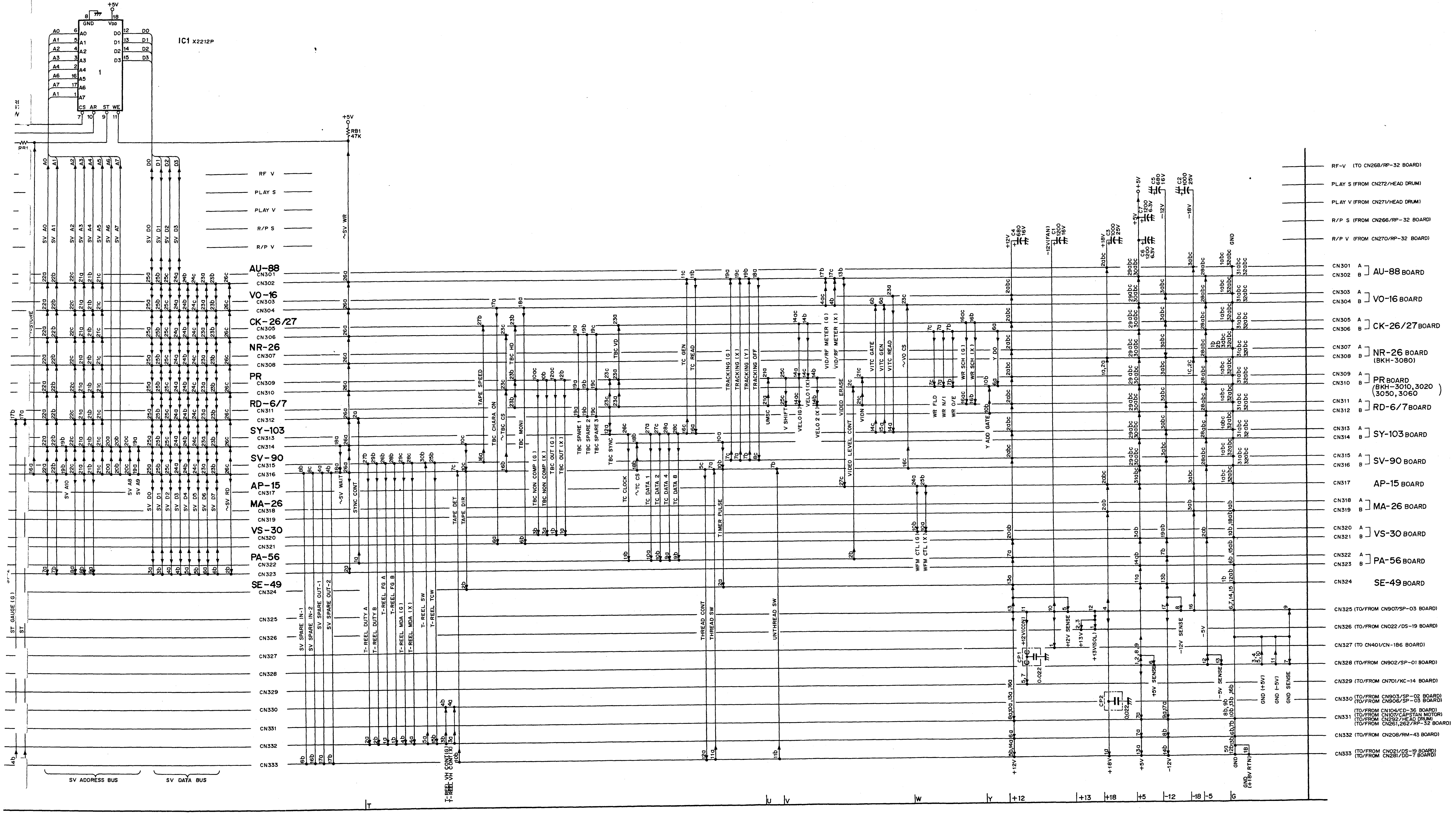
BOARD NO.1-621-099-12

BVH-3000(J)	; #10601-	BVH-3100(J)	; #10301-
BVH-3000(U/C)	; #10701-	BVH-3100(U/C)	; #10701-
BVH-3000PS	; #10401-	BVH-3100PS	; #10601-

MB-140 BOARD (2/2)

Mother Board


1/2
~NV CS
+5V
RB1 47K
(TO CN268/RP-32 BOARD) RF V
(FROM CN272/HEAD DRUM) PLAY S
(FROM CN271/HEAD DRUM) PLAY V
(FROM CN266/RP-32 BOARD) R/P S
(FROM CN270/RP-32 BOARD) R/P V
AU-88 BOARD A CN301 B CN302
VO-16 BOARD A CN303 B CN304
CK-26/27 BOARD A CN305 B CN306
NR-26 BOARD (BKH-3080) A CN307 B CN308
PR BOARD (BKH-3010,3020, 3050,3060) A CN309 B CN310
RD-6/7 BOARD A CN311 B CN312
SY-103 BOARD A CN313 B CN314
SV-90 BOARD A CN315 B CN316
AP-15 BOARD CN317
MA-26 BOARD A CN318 B CN319
VS-30 BOARD A CN320 B CN321
PA-56 BOARD A CN322 B CN323
SE-49 BOARD CN324
(TO/FROM CN907/SP-03 BOARD) CN325
(TO/FROM CN022/DS-19 BOARD) CN326
(TO CN401/CN-186 BOARD) CN327
(TO/FROM CN902/SP-01 BOARD) CN328
(TO/FROM CN701/KC-14 BOARD) CN329
(TO/FROM CN903/SP-02 BOARD) (TO/FROM CN906/SP-03 BOARD) CN330
(TO/FROM CN104/CD-36 BOARD) (TO/FROM CN107/CAPSTAN MOTOR) (TO/FROM CN292/HEAD DRUM) (TO/FROM CN261,262/RP-32 BOARD) CN331
(TO/FROM CN208/RM-43 BOARD) CN332
(TO/FROM CN021/DS-19 BOARD) (TO/FROM CN281/DD-7 BOARD) CN333
SIGNAL NAME INDEX
R
S
R/P SYNC RF (G)
R/P SYNC RF (X)
R/P VIDEO RF (G)
R/P VIDEO RF (X)
RD 20
RD 21
RD 22
RD 23
RD 24
RD 25
RD 26
RD 27
RD 28
RD CK (+)
RD CK (−)
RD CONT 1
RD CONT 2
RD CONT 3
~RD CS
RD FLD
RD FSC (+)
RD FSC (−)
~RD INT
RD N/I
RD O/E
READ INHI
READ ZERO 1
READ ZERO 2
READ ZERO SHIFT
REC CTL
~REC INHI (VID)
REC SIG
~REC RELAY
~REC SYNC
~REC VIDEO
~RECALL
REF 2
REF 4
REF 8
REF ADV V
REF CK (+)
REF CK (−)
REF H
REF SC
REF SCH
REF SYNC
REF V
REF VID (G)
REF VID (X)
REF VN
REM 2A IN (+)
REM 2A IN (−)
REM 2A OUT (+)
REM 2A OUT (−)
REM 2B IN (+)
REM 2B IN (−)
REM 2B OUT (+)
REM 2B OUT (−)
~REM CS
~RESET
REMOTE OUT
RETURN (CON)
RETURN (FAN)
RETURN (SOL)
RF EVN
RF ENV MONI
RF ENVELOPE (G)
RF ENVELOPE (X)
RF SW
RF VIDEO (G)
RF VIDEO (X)
RS 232C RX
RS 232C TX
RS 232C SELECT
RS 232C SENSE
RTS
S-REEL DUTY A
S-REEL DUTY B
S-REEL FG A
S-REEL FG B
S-REEL MDA (G)
S-REEL MDA (X)
S-REEL SW
S REEL TCW
S-REEL TEN (G)
S-REEL TEN (X)
S-REEL VH CONT (G)
S REEL VH CONT (X)
S-TEN GAIN
SA
SC CONT
SE
SEL CF
SEL FRAME
SEL VID MONI
SET UP CONT
SENS 0
SP-1
SP-2
ST GAUGE (G)
ST GAUGE (X)
~STORE
SV A0
SV A1
SV A2
SV A3
SV A4
SV A5
SV A6
SV A7
SV A8
SV A9
SV A10
SV D0
SV ADDRESS BUS
A0 A1 A2 A3 A4 A5 A6 A7
CS AR ST WE
GND VDD
D0 D1 D2 D3
1

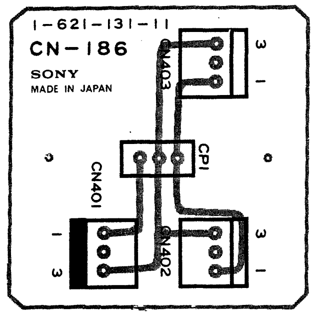

IC1 X2212P
+5V
RB1 47K
SV ADDRESS BUS
SV DATA BUS
RF V
PLAY S
PLAY V
R/P S
R/P V
AU-88
VO-16
CK-26/27
NR-26
PR
RD-6/7
SY-103
SV-90
AP-15
MA-26
VS-30
PA-56
SE-49
CN301
CN302
CN303
CN304
CN305
CN306
CN307
CN308
CN309
CN310
CN311
CN312
CN313
CN314
CN315
CN316
CN317
CN318
CN319
CN320
CN321
CN322
CN323
CN324
CN325
CN326
CN327
CN328
CN329
CN330
CN331
CN332
CN333
RF-V (TO CN268/RP-32 BOARD)
PLAY S (FROM CN272/HEAD DRUM)
PLAY V (FROM CN271/HEAD DRUM)
R/P S (FROM CN266/RP-32 BOARD)
R/P V (FROM CN270/RP-32 BOARD)
AU-88 BOARD
VO-16 BOARD
CK-26/27 BOARD
NR-26 BOARD (BKH-3080)
PR BOARD (BKH-3010, 3020, 3050, 3060)
RD-6/7 BOARD
SY-103 BOARD
SV-90 BOARD
AP-15 BOARD
MA-26 BOARD
VS-30 BOARD
PA-56 BOARD
SE-49 BOARD
CN325 (TO/FROM CN907/SP-03 BOARD)
CN326 (TO/FROM CN022/DS-19 BOARD)
CN327 (TO CN401/CN-186 BOARD)
CN328 (TO/FROM CN902/SP-01 BOARD)
CN329 (TO/FROM CN701/KC-14 BOARD)
CN330 (TO/FROM CN903/SP-02 BOARD) (TO/FROM CN906/SP-03 BOARD)
CN331 (TO/FROM CN104/CD-36 BOARD) (TO/FROM CN107/CAPSTAN MOTOR) (TO/FROM CN292/HEAD DRUM) (TO/FROM CN261,262/RP-32 BOARD)
CN332 (TO/FROM CN208/RM-43 BOARD)
CN333 (TO/FROM CN021/DS-19 BOARD) (TO/FROM CN281/DD-7 BOARD)
TAPE SPEED
TBC CHARA ON
~TBC CS
TBC HD
TBC MONI
TBC NON COMP (G)
TBC NON COMP (X)
TBC OUT (G)
TBC OUT (X)
TBC SPARE 1
TBC SPARE 2
TBC SPARE 3
TBC SYNC
TBC VD
TC CLOCK
~TC CS
TC DATA 1
TC DATA 2
TC DATA 4
TC DATA 8
TC GEN
TC READ
TIMER PULSE
TRACKING (G)
TRACKING (X)
TRACKING (Y)
TRACKING OFF
UMSC
V SHIFT
VELO1 (G)
VELO1 (X)
VELO 2 (X)
VID/RF METER (G)
VID/RF METER (X)
VIDEO ERASE
VIDEO LEVEL CONT
VION
VITC GATE
VITC GEN
VITC READ
~VO CS
WR FLD
WR N/1
WR C/E
WR SCH (G)
WR SCH (X)
Y DO
Y ADD GATE
WFM CTL (G)
WFM CTL (X)
SV WAIT
~SV WR
SYNC CONT
TAPE DET
TAPE DIR
SV SPARE IN-1
SV SPARE IN-2
SV SPARE OUT-1
SV SPARE OUT-2
T-REEL DUTY A
T-REEL DUTY B
T-REEL FG A
T-REEL FG B
T-REEL MDA (G)
T-REEL MDA (X)
T-REEL SW
T-REEL TCW
T-REEL VH CONT (G)
T-REEL VH CONT (X)
THREAD CONT
THREAD SW
UNTHREAD SW
ST GAUGE (G)
ST
+12V
+12V(CON)
+12V SENSE
+13V
+13V(SOL)
-12V
-12V(FAN)
-12V SENSE
+18V
+5V
+5V SENSE
-5V
-5V SENSE
-18V
GND
GND (+5V)
GND (-5V)
GND SENSE
GND (+18V RTN)
CP1
CP2
C1 1200 16V
C2 1000 25V
C3 1000 25V
C4 680 16V
C5 680 16V
C6 1200 6.3V
C7 1200 6.3V
0.022
T
U
V
W
Y
+12
+13
+18
+5
-12
-18
-5
G

MB-140 BOARD **(2/2)**
BOARD NO. 1-621-099-12

BVH-3000 (J)	; # 10601–	BVH-3100 (J)	; # 10301–
BVH-3000 (U/C)	; # 10701–	BVH-3100 (U/C)	; # 10701–
BVH-3000 PS	; # 10401–	BVH-3100 PS	; # 10601–

CN-186 BOARD (1-621-131-11)

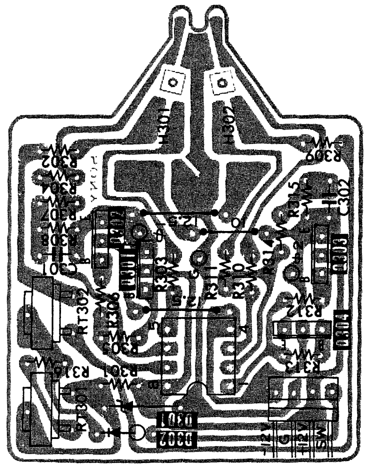
Component Side


1-621-131-11
CN-186
SONY
MADE IN JAPAN
CN403
CP1
CN401
CN402
3
1
1
3
3
1

1-621-131-11 SOLDER SIDE

MOTOR BOARD (1-602-615-11)

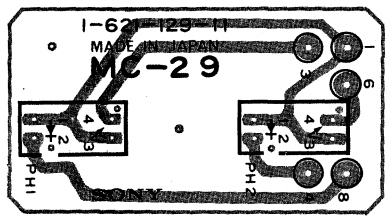
Component Side


H301
H302
R309
C302
RT302
R313
R311
R310

1-602-615-11
SOLDER SIDE

MC-29 BOARD (1-621-129-11)

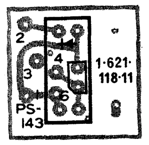
Component Side


1-621-129-11
MADE IN JAPAN
MC-29
SONY
PH1
PH2
1
3
6
8
4
2

1-621-129-11 SOLDER SIDE

PS-143 BOARD (1-621-118-11)

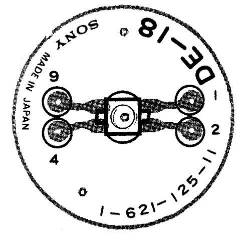
Component Side


PS-143
1-621-118-11
1
2
3
4

1-621-118-11
SOLDER SIDE

DE-18 BOARD (1-621-1

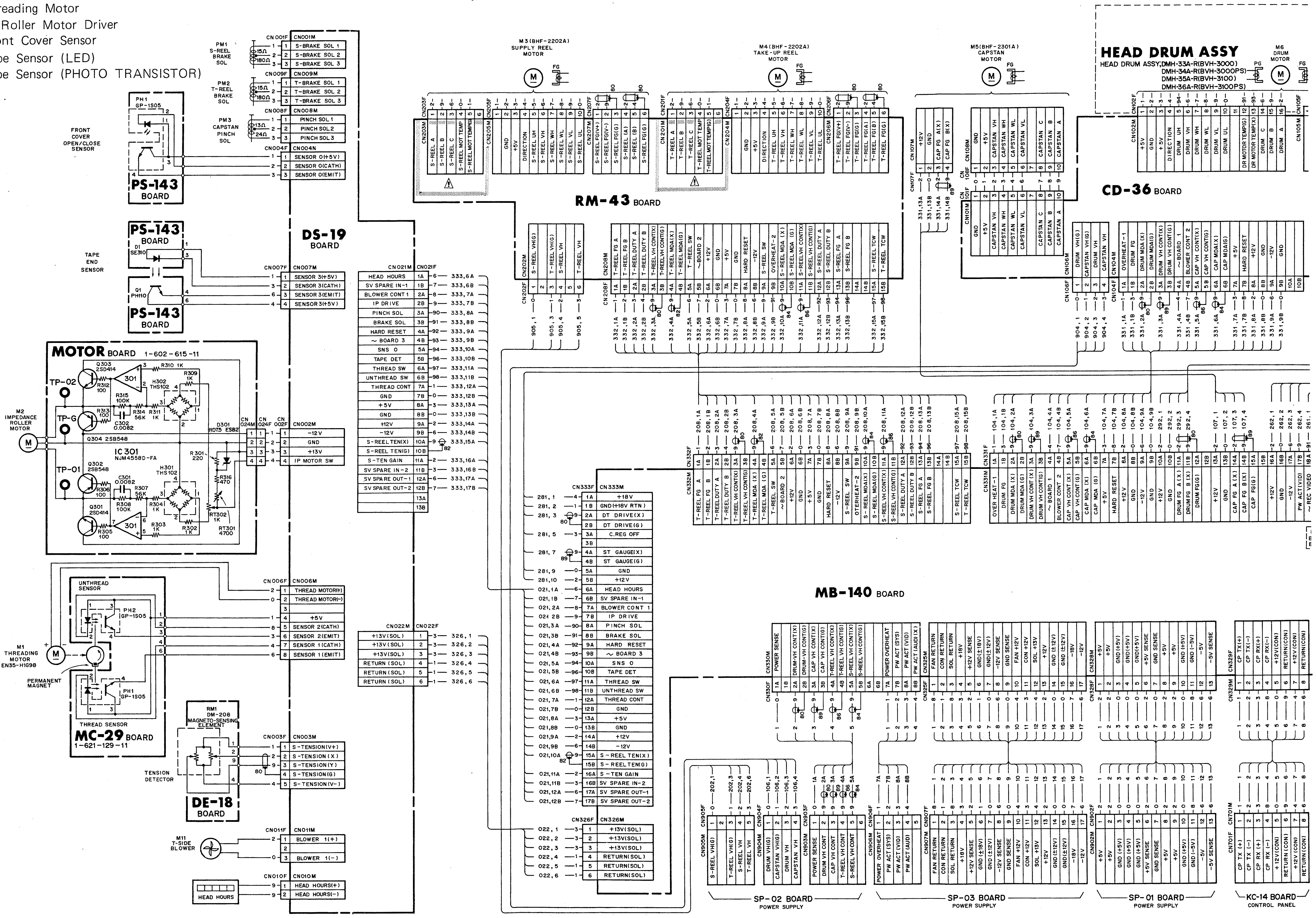
Component Side

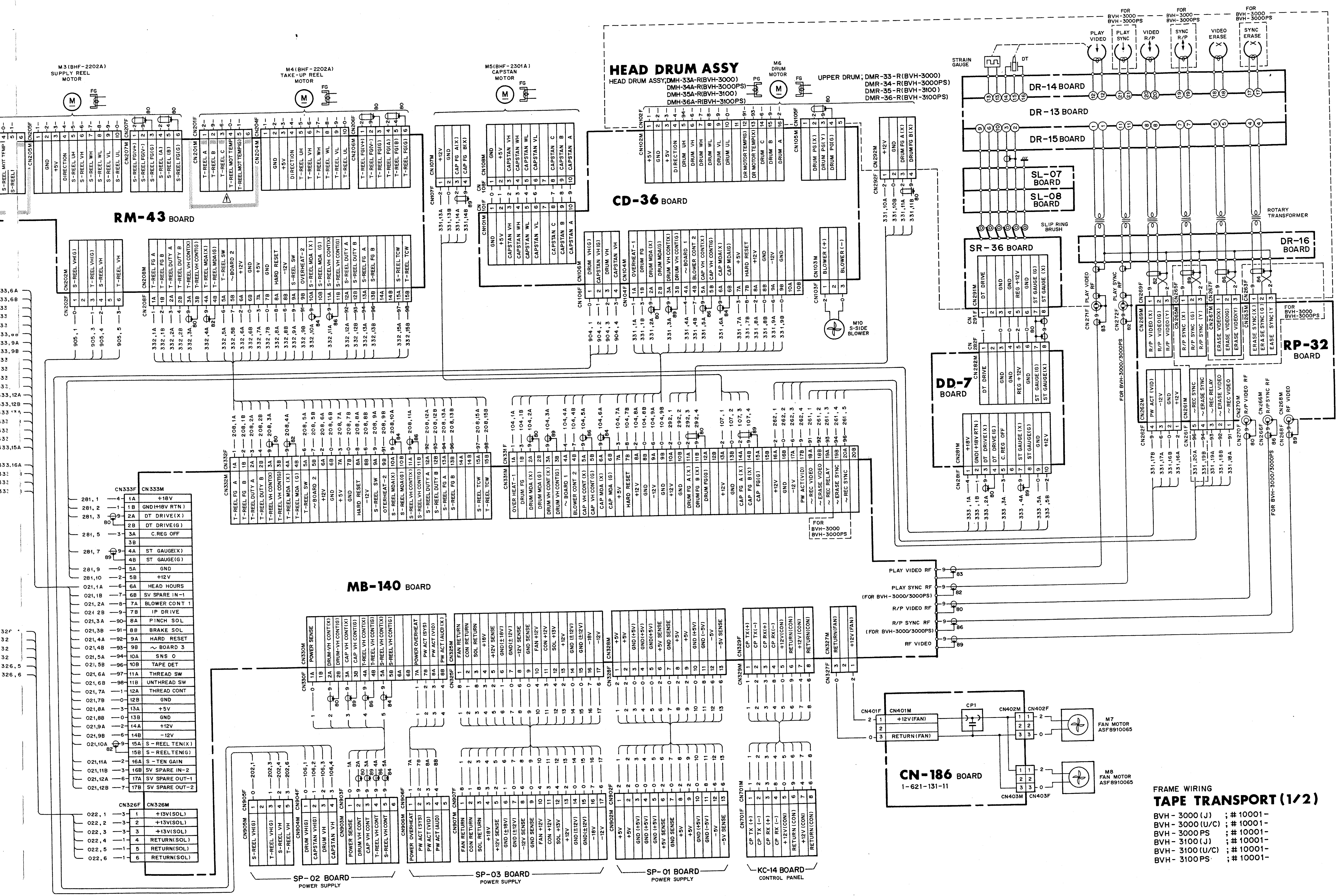

DE-18
SONY
MADE IN JAPAN
1-621-125-11
1
2
4
9

1-621-125-11
SOLDER SIDE

FRAME WIRING: TAPE TRANSPORT(1/2)

CN-186 BOARD:	Fan Connector
DE-18 BOARD:	Tension Sensor
MC-29 BOARD:	Threading Motor
MOTOR BOARD:	IP Roller Motor Driver
PS-143 BOARD:	Front Cover Sensor Tape Sensor (LED) Tape Sensor (PHOTO TRANSISTOR)

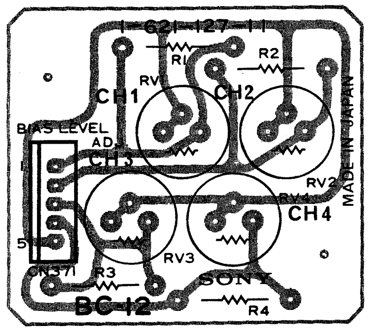

PM1 S-REEL BRAKE SOL
PM2 T-REEL BRAKE SOL
PM3 CAPSTAN PINCH SOL
FRONT COVER OPEN/CLOSE SENSOR
PH1 GP-1S05
PS-143 BOARD
TAPE END SENSOR
D1 SE310
Q1 PH110
DS-19 BOARD
MOTOR BOARD 1-602-615-11
M2 IMPEDANCE ROLLER MOTOR
IC301 NJM4558D-FA
UNTHREAD SENSOR
THREAD SENSOR
M1 THREADING MOTOR EN35-H1G9B
PERMANENT MAGNET
MC-29 BOARD 1-621-129-11
RM1 DM-208 MAGNETO-SENSING ELEMENT
TENSION DETECTOR
DE-18 BOARD
M11 T-SIDE BLOWER
HEAD HOURS
M3 (BHF-2202A) SUPPLY REEL MOTOR
M4 (BHF-2202A) TAKE-UP REEL MOTOR
M5 (BHF-2301A) CAPSTAN MOTOR
HEAD DRUM ASSY
HEAD DRUM ASSY, DMH-33A-R(BVH-3000)
DMH-34A-R(BVH-3000PS)
DMH-35A-R(BVH-3100)
DMH-36A-R(BVH-3100PS)
M6 DRUM MOTOR
RM-43 BOARD
CD-36 BOARD
MB-140 BOARD
SP-02 BOARD POWER SUPPLY
SP-03 BOARD POWER SUPPLY
SP-01 BOARD POWER SUPPLY
KC-14 BOARD CONTROL PANEL


M3(BHF-2202A) SUPPLY REEL MOTOR
M4(BHF-2202A) TAKE-UP REEL MOTOR
M5(BHF-2301A) CAPSTAN MOTOR
HEAD DRUM ASSY
HEAD DRUM ASSY;DMH-33A-R(BVH-3000)
DMH-34A-R(BVH-3000PS)
DMH-35A-R(BVH-3100)
DMH-36A-R(BVH-3100PS)
M6 DRUM MOTOR
UPPER DRUM; DMR-33-R(BVH-3000)
DMR-34-R(BVH-3000PS)
DMR-35-R(BVH-3100)
DMR-36-R(BVH-3100PS)
STRAIN GAUGE
DT
PLAY VIDEO
PLAY SYNC
VIDEO R/P
SYNC R/P
VIDEO ERASE
SYNC ERASE
FOR BVH-3000 BVH-3000PS
DR-14 BOARD
DR-13 BOARD
DR-15 BOARD
SL-07 BOARD
SL-08 BOARD
SLIP RING BRUSH
ROTARY TRANSFORMER
DR-16 BOARD
SR-36 BOARD
RP-32 BOARD
DD-7 BOARD
RM-43 BOARD
CD-36 BOARD
M10 S-SIDE BLOWER
MB-140 BOARD
PLAY VIDEO RF
PLAY SYNC RF
(FOR BVH-3000/3000PS)
R/P VIDEO RF
R/P SYNC RF
(FOR BVH-3000/3000PS)
RF VIDEO
CN-186 BOARD
1-621-131-11
CP1
M7 FAN MOTOR ASF8910065
M8 FAN MOTOR ASF8910065
SP-02 BOARD POWER SUPPLY
SP-03 BOARD POWER SUPPLY
SP-01 BOARD POWER SUPPLY
KC-14 BOARD CONTROL PANEL

FRAME WIRING
TAPE TRANSPORT (1/2)
BVH-3000(J) ; #10001-
BVH-3000(U/C) ; #10001-
BVH-3000PS ; #10001-
BVH-3100(J) ; #10001-
BVH-3100(U/C) ; #10001-
BVH-3100PS ; #10001-

BC-12 BOARD (1-621-127-11)

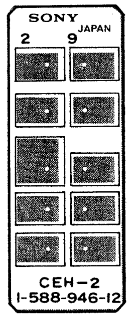
Component Side


1-621-127-11
R1
R2
RV1
CH1
CH2
BIAS LEVEL ADJ.
CH3
RV2
RV4
CH4
RV3
5
CN371
R3
SONY
BC-12
R4
MADE IN JAPAN

1-621-127-11 SOLDER SIDE

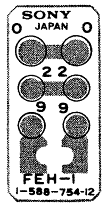
CEH-2 BOARD (1-588-946-12)

Solder Side


SONY
JAPAN
2
9
CEH-2
1-588-946-12

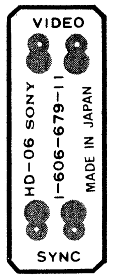
FEH-1 BOARD (1-588-754-12)(FOR NTSC)

Solder Side


SONY
JAPAN
O
O
2 2
9 9
FEH-1
1-588-754-12

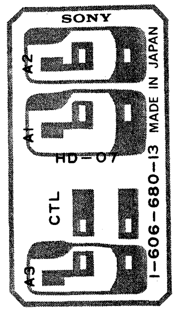
HD-06 BOARD (1-606-679-11)(FOR PS)

Solder Side


VIDEO
HD-06 SONY
1-606-679-11
MADE IN JAPAN
SYNC

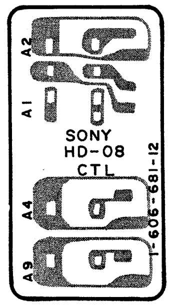
HD-07 BOARD (1-606-680-13)

Solder Side


SONY
A2
A1
HD-07
MADE IN JAPAN
1-606-680-13
CTL
A3

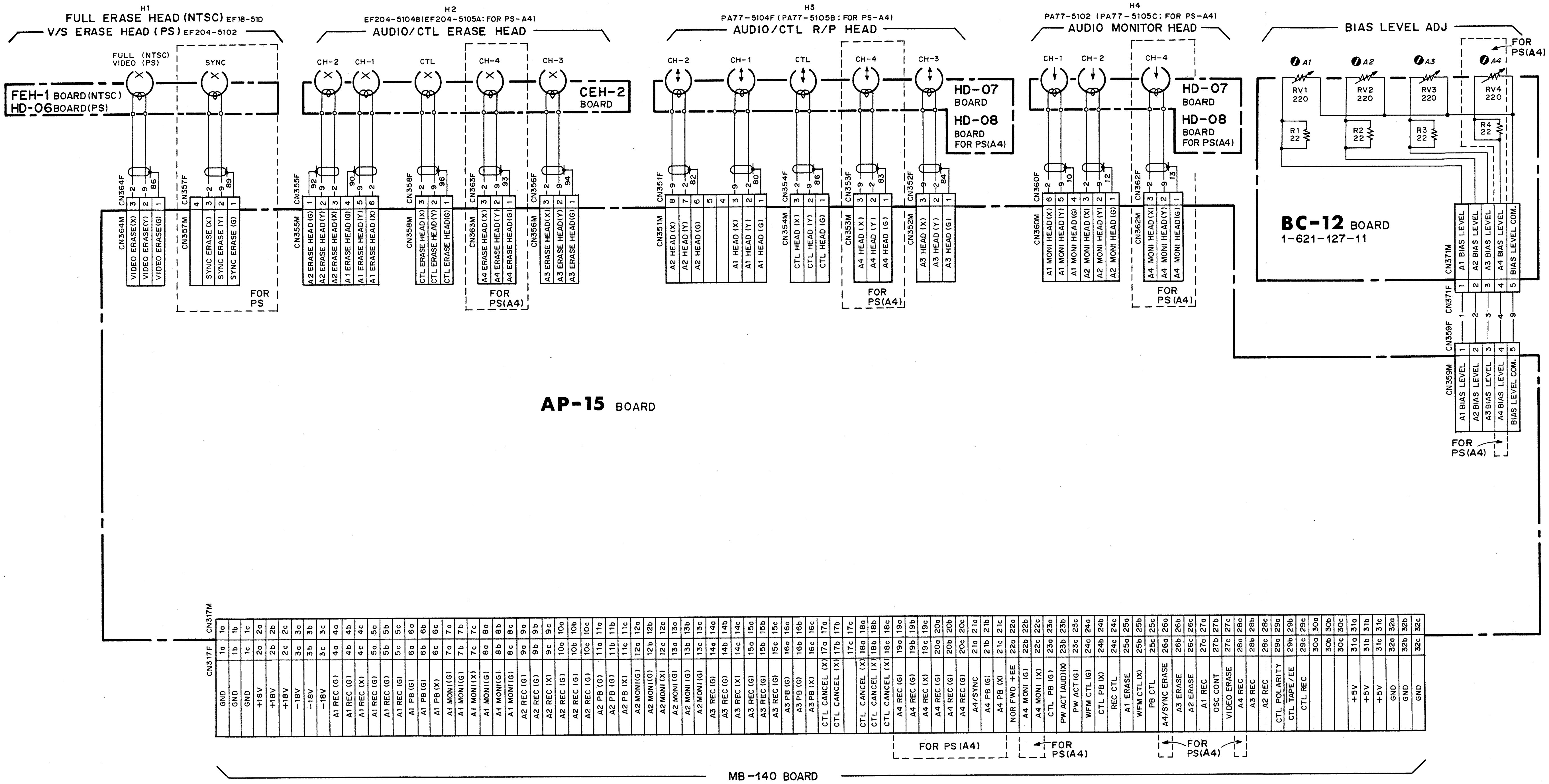
HD-08 BOARD (1-606-681-12) (FOR PS-A4)

Solder Side


A2
A1
SONY
HD-08
CTL
A4
A9
1-606-681-12

FRAME WIRING: TAPE TRANSPORT(2/2)

BC-12 BOARD:	Audio Bias Level Adj
CEH-2 BOARD:	Audio/CTL Erase Head
FEH-1 BOARD:	Full Erase Head
HD-06 BOARD:	Video/Sync Erase Head
HD-07/08 BOARD:	Audio/CTL R/P Head Audio Monitor Head

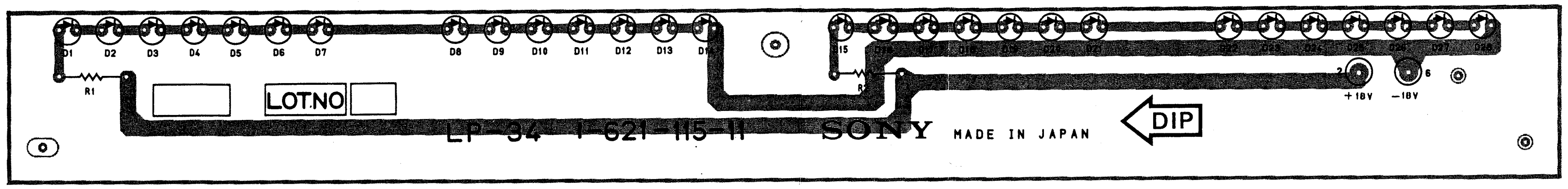

H1
FULL ERASE HEAD (NTSC) EF18-51D
V/S ERASE HEAD (PS) EF204-5102
FULL (NTSC) VIDEO (PS)
SYNC
FEH-1 BOARD (NTSC)
HD-06 BOARD (PS)
H2
EF204-5104B (EF204-5105A: FOR PS-A4)
AUDIO/CTL ERASE HEAD
CH-2
CH-1
CTL
CH-4
CH-3
CEH-2 BOARD
H3
PA77-5104F (PA77-5105B: FOR PS-A4)
AUDIO/CTL R/P HEAD
HD-07 BOARD
HD-08 BOARD FOR PS(A4)
H4
PA77-5102 (PA77-5105C: FOR PS-A4)
AUDIO MONITOR HEAD
BIAS LEVEL ADJ
FOR PS(A4)
RV1 220
RV2 220
RV3 220
RV4 220
R1 22
R2 22
R3 22
R4 22
BC-12 BOARD
1-621-127-11
CN364F
CN364M
VIDEO ERASE(X)
VIDEO ERASE(Y)
VIDEO ERASE(G)
CN357F
CN357M
SYNC ERASE (X)
SYNC ERASE (Y)
SYNC ERASE (G)
FOR PS
CN355F
CN355M
A2 ERASE HEAD (G)
A2 ERASE HEAD (Y)
A2 ERASE HEAD (X)
A1 ERASE HEAD (G)
A1 ERASE HEAD (Y)
A1 ERASE HEAD (X)
CN358F
CN358M
CTL ERASE HEAD (X)
CTL ERASE HEAD (Y)
CTL ERASE HEAD (G)
CN363F
CN363M
A4 ERASE HEAD (X)
A4 ERASE HEAD (Y)
A4 ERASE HEAD (G)
FOR PS(A4)
CN356F
CN356M
A3 ERASE HEAD (X)
A3 ERASE HEAD (Y)
A3 ERASE HEAD (G)
CN351F
CN351M
A2 HEAD (X)
A2 HEAD (Y)
A2 HEAD (G)
A1 HEAD (X)
A1 HEAD (Y)
A1 HEAD (G)
CN354F
CN354M
CTL HEAD (X)
CTL HEAD (Y)
CTL HEAD (G)
CN353F
CN353M
A4 HEAD (X)
A4 HEAD (Y)
A4 HEAD (G)
CN352F
CN352M
A3 HEAD (X)
A3 HEAD (Y)
A3 HEAD (G)
CN360F
CN360M
A1 MONI HEAD (X)
A1 MONI HEAD (Y)
A1 MONI HEAD (G)
A2 MONI HEAD (X)
A2 MONI HEAD (Y)
A2 MONI HEAD (G)
CN362F
CN362M
A4 MONI HEAD (X)
A4 MONI HEAD (Y)
A4 MONI HEAD (G)
CN371M
A1 BIAS LEVEL
A2 BIAS LEVEL
A3 BIAS LEVEL
A4 BIAS LEVEL
BIAS LEVEL COM.
CN371F
CN359F
CN359M
AP-15 BOARD
CN317M
CN317F
GND
+18V
−18V
A1 REC (G)
A1 REC (X)
A1 PB (G)
A1 PB (X)
A1 MONI (G)
A1 MONI (X)
A2 MONI (G)
A2 REC (G)
A2 REC (X)
A2 PB (G)
A2 PB (X)
A2 MONI (X)
A3 REC (G)
A3 REC (X)
A3 PB (G)
A3 PB (X)
CTL CANCEL (X)
A4 REC (G)
A4 REC (X)
A4/SYNC
A4 PB (G)
A4 PB (X)
NOR FWD +EE
A4 MONI (G)
A4 MONI (X)
CTL PB (G)
PW ACT (AUDIO)
PW ACT (G)
WFM CTL (G)
CTL PB (X)
REC CTL
A1 ERASE
WFM CTL (X)
PB CTL
A4/SYNC ERASE
A3 ERASE
A2 ERASE
A1 REC
OSC CONT
VIDEO ERASE
A4 REC
A3 REC
A2 REC
CTL POLARITY
CTL TAPE/EE
CTL REC
+5V
FOR PS(A4)
MB-140 BOARD

FRAME WIRING

TAPE TRANSPORT(2/2)

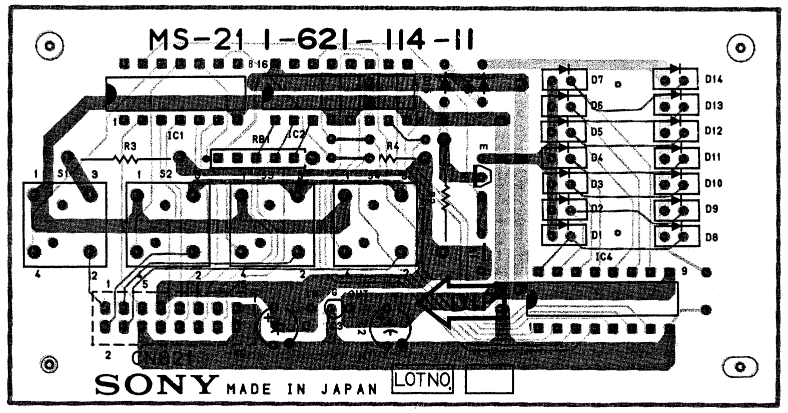
BVH-3000(J) ;#10001–
BVH-3000(U/C);#10001–
BVH-3000PS ;#10001–
BVH-3100(J) ;#10001–
BVH-3100(U/C);#10001–
BVH-3100PS ;#10001–

LP-34 BOARD (1-621-115-11)
Component Side


LP-34 1-621-115-11
SONY
MADE IN JAPAN
LOT.NO
DIP
R1
+18V
-18V
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13

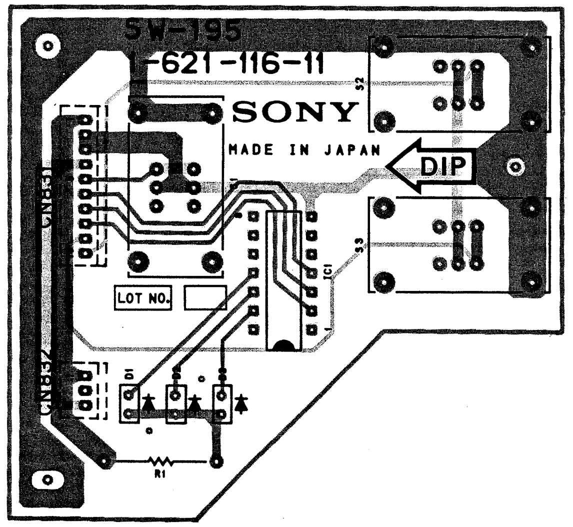
1-621-115-11 SOLDER SIDE

MS-21 BOARD (1-621-114-11)
Component Side


MS-21 1-621-114-11
SONY
MADE IN JAPAN
LOT.NO
IC1
IC2
IC4
R3
R4
S1
S2
CN821
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14

1-621-114-11 COMPONENT SIDE
1-621-114-11 SOLDER SIDE

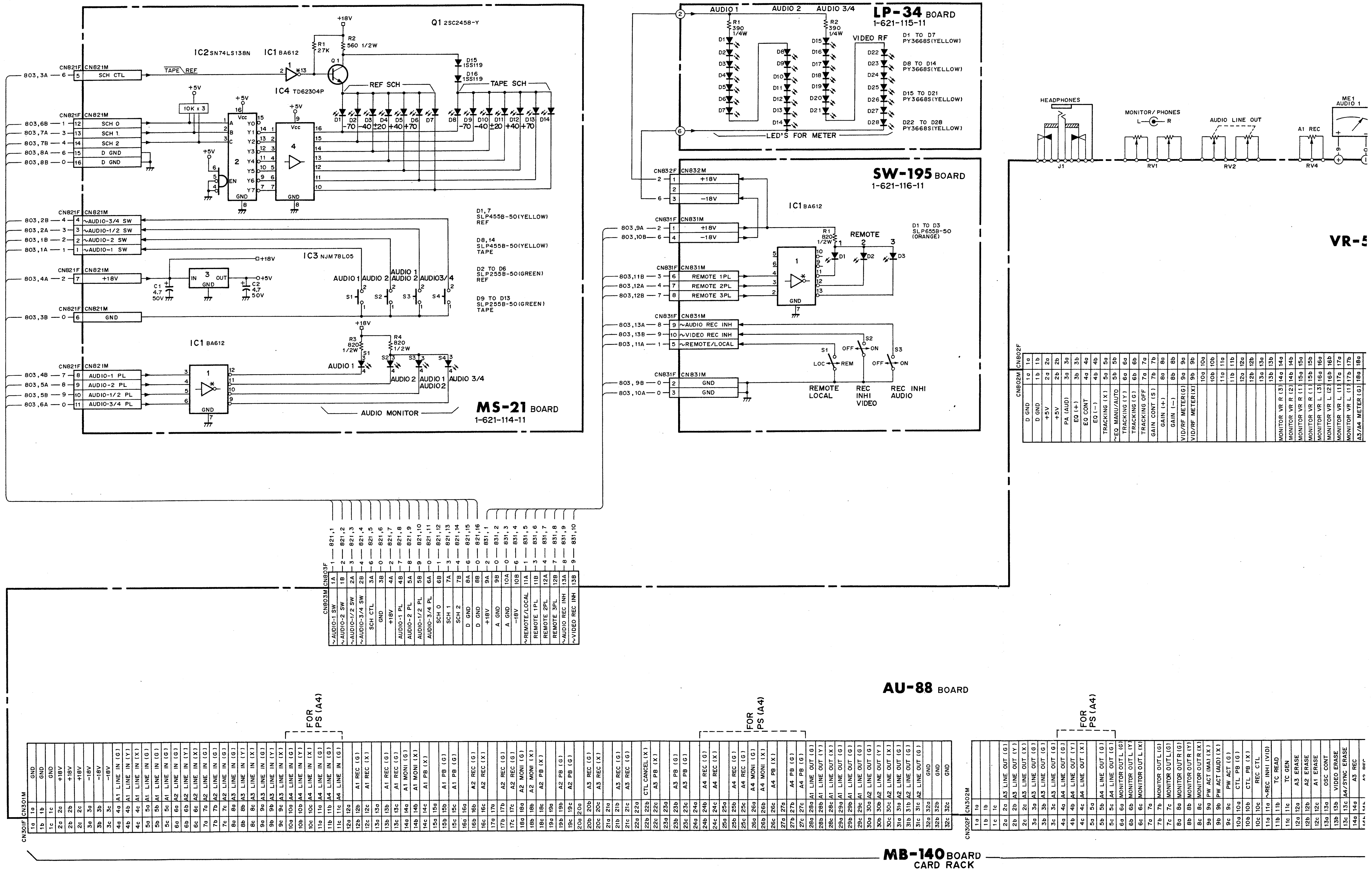
SW-195 BOARD (1-621-116-11)
Component Side

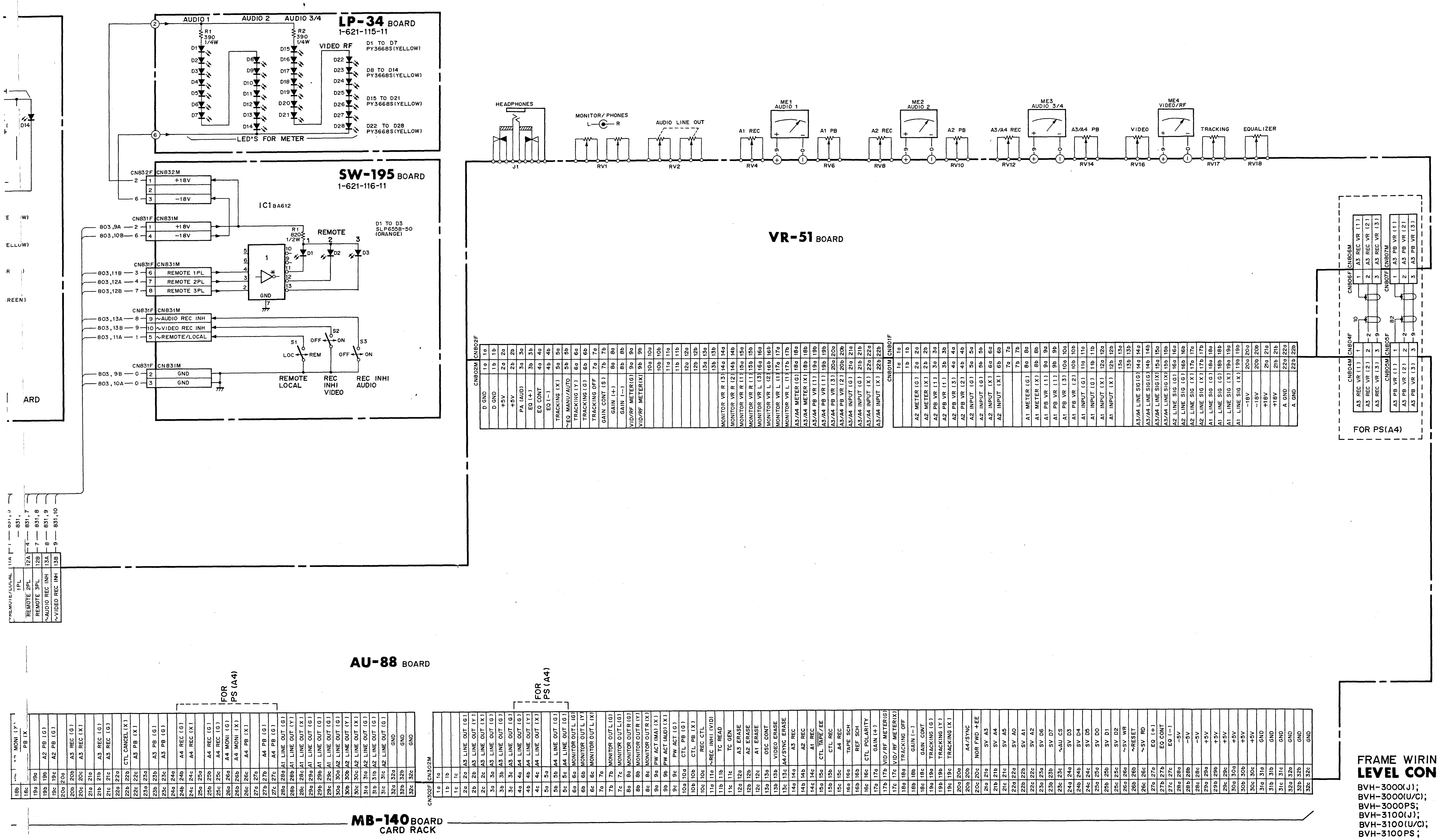

SW-195
1-621-116-11
SONY
MADE IN JAPAN
DIP
LOT NO.
IC1
S2
S3
R1
D1

1-621-116-11 COMPONENT SIDE
1-621-116-11 SOLDER SIDE

FRAME WIRING: LEVEL CONTROL PANEL

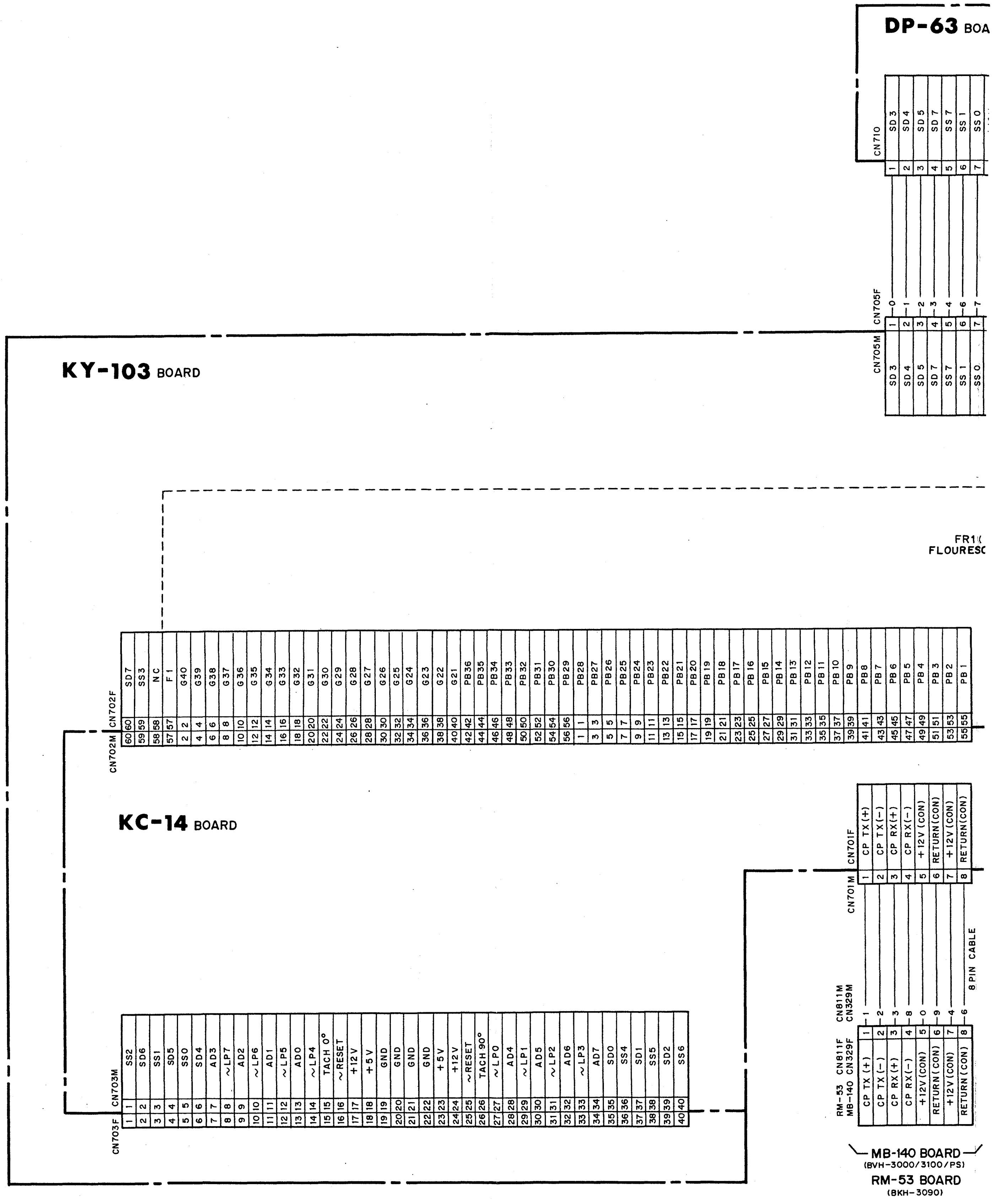
LP-34 BOARD: Meter Lamp
MS-21 BOARD: Monitor Select
SW-195 BOARD: Switch

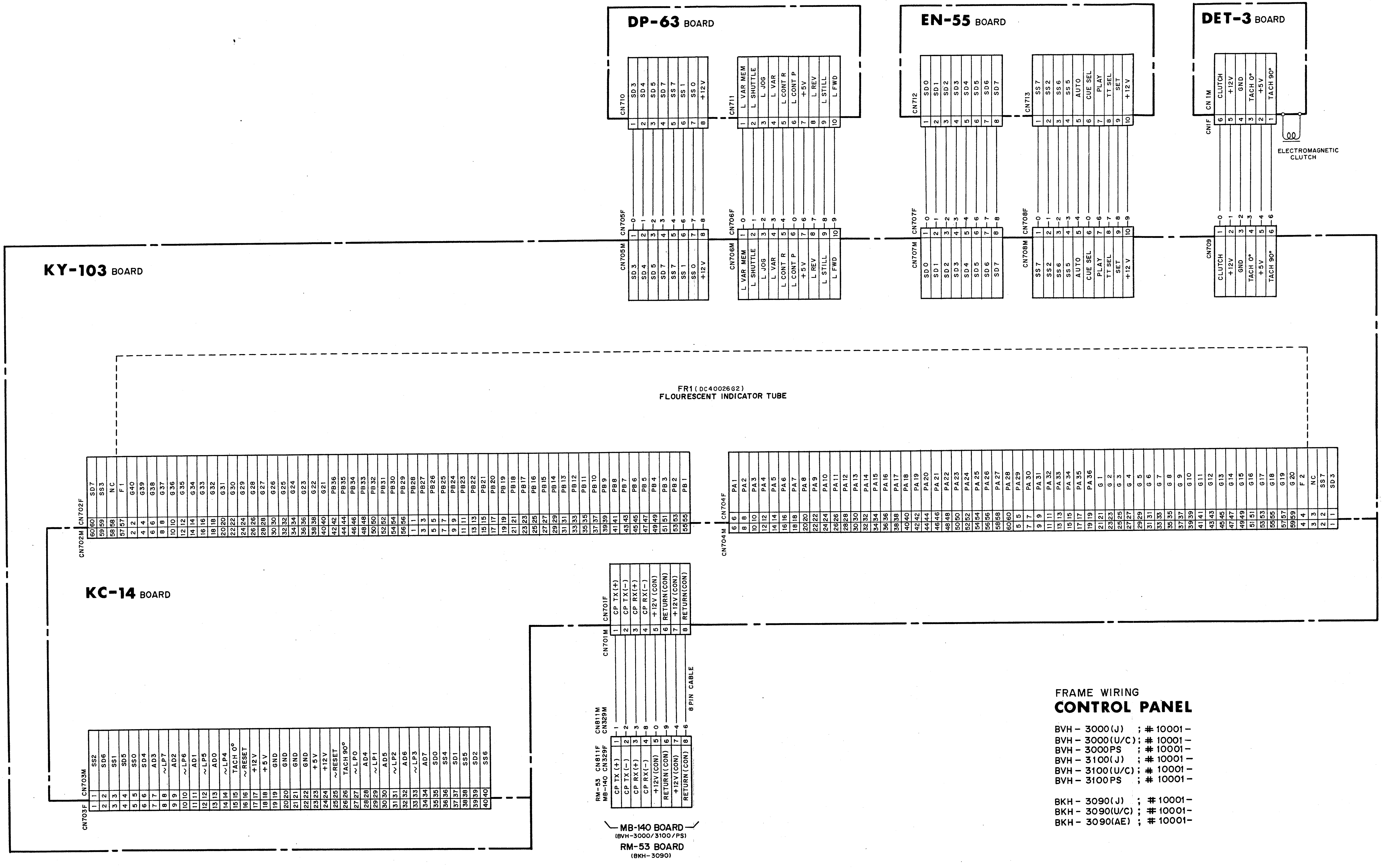

MS-21 BOARD
1-621-114-11
LP-34 BOARD
1-621-115-11
SW-195 BOARD
1-621-116-11
AU-88 BOARD
MB-140 BOARD
CARD RACK
VR-5
Q1 2SC2458-Y
IC2 SN74LS138N
IC1 BA612
IC4 TD62304P
IC3 NJM78L05
REF SCH
TAPE SCH
AUDIO MONITOR
D1,7 SLP455B-50(YELLOW) REF
D8,14 SLP455B-50(YELLOW) TAPE
D2 TO D6 SLP255B-50(GREEN) REF
D9 TO D13 SLP255B-50(GREEN) TAPE
AUDIO 1
AUDIO 2
AUDIO 3/4
VIDEO RF
LED'S FOR METER
D1 TO D7 PY3668S(YELLOW)
D8 TO D14 PY3668S(YELLOW)
D15 TO D21 PY3668S(YELLOW)
D22 TO D28 PY3668S(YELLOW)
REMOTE
D1 TO D3 SLP655B-50 (ORANGE)
REMOTE LOCAL
REC INHI VIDEO
REC INHI AUDIO
HEADPHONES
MONITOR/PHONES
AUDIO LINE OUT
A1 REC
ME1 AUDIO 1
J1
RV1
RV2
RV4
CN821F CN821M
CN831F CN831M
CN832F CN832M
CN803M CN803F
CN802M CN802F
CN301F CN301M
CN302F CN302M
FOR PS (A4)


LP-34 BOARD
1-621-115-11
AUDIO 1
AUDIO 2
AUDIO 3/4
VIDEO RF
R1 390 1/4W
R2 390 1/4W
D1 TO D7 PY3668S(YELLOW)
D8 TO D14 PY3668S(YELLOW)
D15 TO D21 PY3668S(YELLOW)
D22 TO D28 PY3668S(YELLOW)
LED'S FOR METER
SW-195 BOARD
1-621-116-11
IC1 BA612
CN832F CN832M
+18V
-18V
CN831F CN831M
REMOTE 1PL
REMOTE 2PL
REMOTE 3PL
~AUDIO REC INH
~VIDEO REC INH
~REMOTE/LOCAL
GND
R1 820 1/2W
REMOTE
D1 TO D3 SLP655B-50 (ORANGE)
S1 LOC REM
S2 OFF ON
S3 OFF ON
REMOTE LOCAL
REC INHI VIDEO
REC INHI AUDIO
803,9A
803,10B
803,11B
803,12A
803,12B
803,13A
803,13B
803,11A
803,9B
803,10A
HEADPHONES
J1
MONITOR/PHONES
L R
RV1
AUDIO LINE OUT
RV2
ME1 AUDIO 1
A1 REC
RV4
A1 PB
RV6
ME2 AUDIO 2
A2 REC
RV8
A2 PB
RV10
ME3 AUDIO 3/4
A3/A4 REC
RV12
A3/A4 PB
RV14
ME4 VIDEO/RF
VIDEO
RV16
TRACKING
RV17
EQUALIZER
RV18
VR-51 BOARD
CN802F CN802M
CN801F CN801M
CN806F CN806M
CN807F CN807M
CN804F CN804M
CN805F CN805M
A3 REC VR (1)
A3 REC VR (2)
A3 REC VR (3)
A3 PB VR (1)
A3 PB VR (2)
A3 PB VR (3)
FOR PS(A4)
AU-88 BOARD
FOR PS (A4)
CN302F CN302M
MB-140 BOARD CARD RACK

FRAME WIRING
LEVEL CONTROL PANEL
BVH-3000(J); #10001-
BVH-3000(U/C); #10001-
BVH-3000PS; #10001-
BVH-3100(J); #10001-
BVH-3100(U/C); #10001-
BVH-3100PS; #10001-

FRAME WIRING: FUNCTION CONTROL PANEL


DP-63 BOA
CN710
SD 3
SD 4
SD 5
SD 7
SS 7
SS 1
SS 0
CN705F
CN705M
KY-103 BOARD
FR1
FLOURESC
CN702F
CN702M
SD7
SS3
N C
F 1
G40
G39
G38
G37
G36
G35
G34
G33
G32
G31
G30
G29
G28
G27
G26
G25
G24
G23
G22
G21
PB36
PB35
PB34
PB33
PB32
PB31
PB30
PB29
PB28
PB27
PB26
PB25
PB24
PB23
PB22
PB21
PB20
PB 19
PB 18
PB 17
PB 16
PB 15
PB 14
PB 13
PB 12
PB 11
PB 10
PB 9
PB 8
PB 7
PB 6
PB 5
PB 4
PB 3
PB 2
PB 1
KC-14 BOARD
CN703M
CN703F
SS2
SD6
SS1
SD5
SSO
SD4
AD3
~LP7
AD2
~LP6
AD1
~LP5
ADO
~LP4
TACH 0°
~RESET
+12V
+5V
GND
GND
GND
GND
+5V
+12V
~RESET
TACH 90°
~LPO
AD4
~LP1
AD5
~LP2
AD6
~LP3
AD7
SDO
SS4
SD1
SS5
SD2
SS6
CN701F
CN701M
CP TX(+)
CP TX(−)
CP RX(+)
CP RX(−)
+12V (CON)
RETURN(CON)
+12V (CON)
RETURN(CON)
8 PIN CABLE
CN811M
CN329M
RM-53 CN811F
MB-140 CN329F
MB-140 BOARD
(BVH-3000/3100/PS)
RM-53 BOARD
(BKH-3090)


DP-63 BOARD
CN710
SD 3
SD 4
SD 5
SD 7
SS 7
SS 1
SS 0
+12 V
CN711
L VAR MEM
L SHUTTLE
L JOG
L VAR
L CONT R
L CONT P
+5 V
L REV
L STILL
L FWD
EN-55 BOARD
CN712
SD 0
SD 1
SD 2
SD 3
SD 4
SD 5
SD 6
SD 7
CN713
SS 7
SS 2
SS 6
SS 5
AUTO
CUE SEL
PLAY
TT SEL
SET
+12 V
DET-3 BOARD
CN 1M
CN1F
CLUTCH
+12V
GND
TACH 0°
+5V
TACH 90°
ELECTROMAGNETIC CLUTCH
CN705F
CN705M
CN706F
CN706M
CN707F
CN707M
CN708F
CN708M
CN709
KY-103 BOARD
FR1 (DC40026G2)
FLOURESCENT INDICATOR TUBE
CN702F
CN702M
SD7
SS3
NC
F1
G40
G39
G38
G37
G36
G35
G34
G33
G32
G31
G30
G29
G28
G27
G26
G25
G24
G23
G22
G21
PB36
PB35
PB34
PB33
PB32
PB31
PB30
PB29
PB28
PB27
PB26
PB25
PB24
PB23
PB22
PB21
PB20
PB19
PB18
PB17
PB16
PB15
PB14
PB13
PB12
PB11
PB10
PB9
PB8
PB7
PB6
PB5
PB4
PB3
PB2
PB1
CN704F
CN704 M
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
PA16
PA17
PA18
PA19
PA20
PA21
PA22
PA23
PA24
PA25
PA26
PA27
PA28
PA29
PA30
PA31
PA32
PA33
PA34
PA35
PA36
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
G12
G13
G14
G15
G16
G17
G18
G19
G20
F2
NC
SS7
SD3
KC-14 BOARD
CN701F
CN701M
CP TX (+)
CP TX (−)
CP RX (+)
CP RX (−)
+12V (CON)
RETURN (CON)
+12V (CON)
RETURN (CON)
8 PIN CABLE
CN811M
CN329M
RM-53 CN811F
MB-140 CN329F
CN703M
CN703F
SS2
SD6
SS1
SD5
SS0
SD4
AD3
~LP7
AD2
~LP6
AD1
~LP5
AD0
~LP4
TACH 0°
~RESET
+12V
+5V
GND
GND
GND
+5V
+12V
~RESET
TACH 90°
~LPO
AD4
~LP1
AD5
~LP2
AD6
~LP3
AD7
SD0
SS4
SD1
SS5
SD2
SS6
MB-140 BOARD
(BVH-3000/3100/PS)
RM-53 BOARD
(BKH-3090)

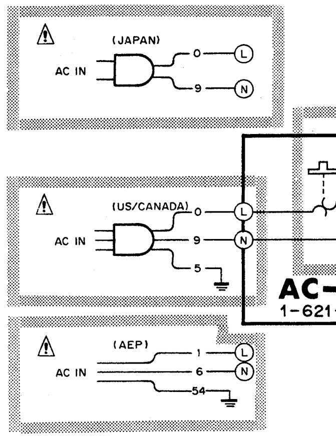
FRAME WIRING
CONTROL PANEL

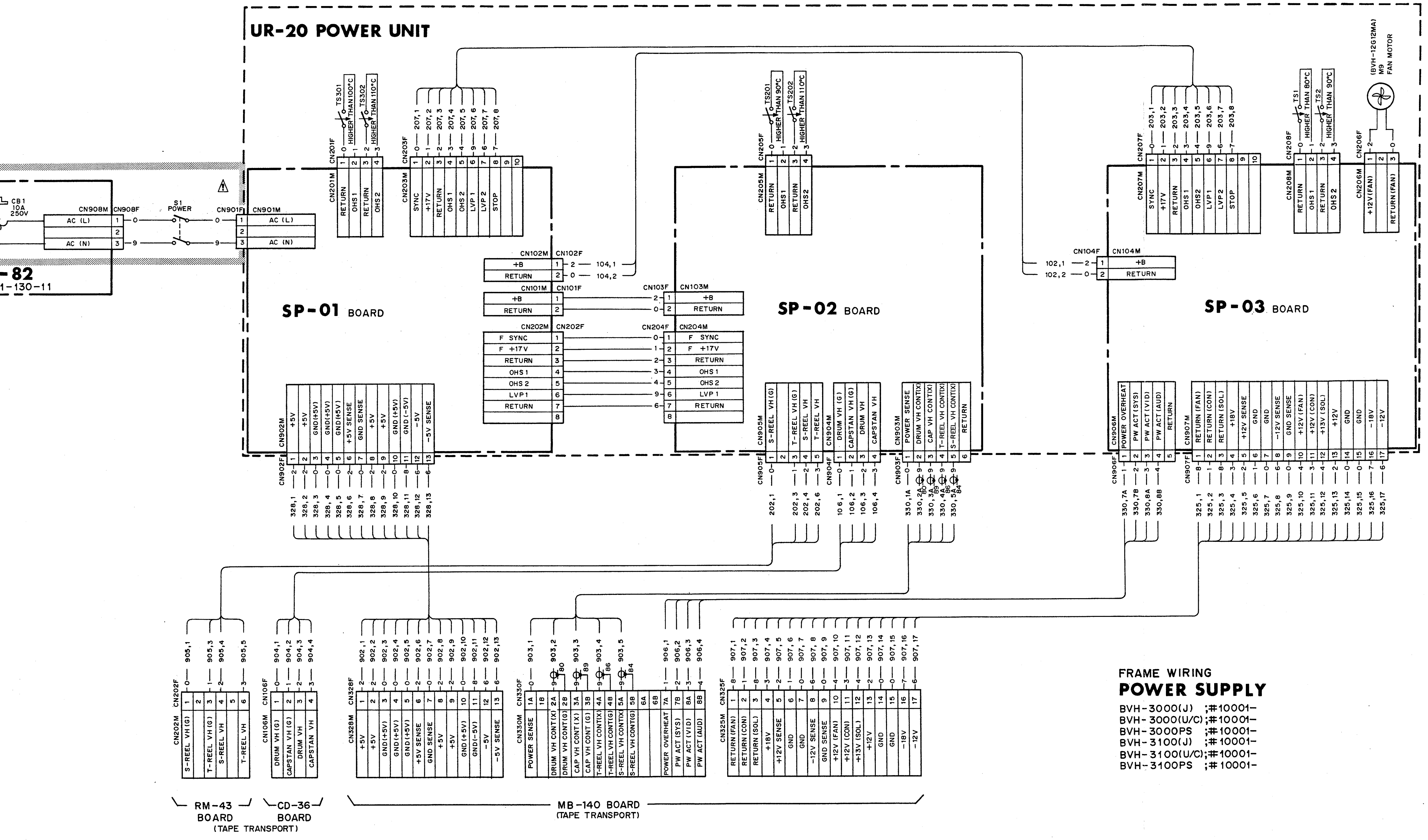
BVH - 3000(J) ; # 10001 -
BVH - 3000(U/C) ; # 10001 -
BVH - 3000PS ; # 10001 -
BVH - 3100(J) ; # 10001 -
BVH - 3100(U/C) ; # 10001 -
BVH - 3100PS ; # 10001 -

BKH - 3090(J) ; # 10001-
BKH - 3090(U/C) ; # 10001-
BKH - 3090(AE) ; # 10001-

FRAME WIRING: POWER SUPPLY

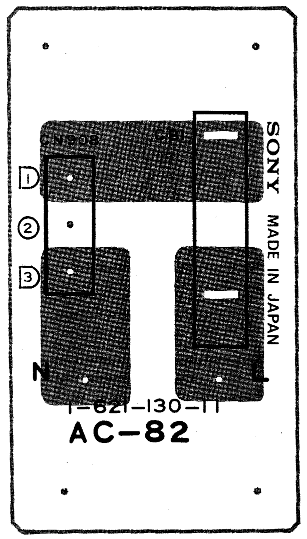
AC-82 BOARD: AC Circuit Breaker


(JAPAN)
AC IN
(US/CANADA)
AC IN
(AEP)
AC IN
L
N
CB1
10A
250V
AC-82
1-621-130-11


UR-20 POWER UNIT
CN908M
CN908F
S1
POWER
CN901F
CN901M
AC (L)
AC (N)
SP-01 BOARD
SP-02 BOARD
SP-03 BOARD
TS301
HIGHER THAN 100°C
TS302
HIGHER THAN 110°C
CN201F
CN201M
RETURN
OHS 1
RETURN
OHS 2
CN203F
CN203M
SYNC
+17V
RETURN
OHS 1
OHS 2
LVP 1
LVP 2
STOP
CN102M
CN102F
+B
RETURN
104,1
104,2
CN101M
CN101F
CN103F
CN103M
CN202M
CN202F
CN204F
CN204M
F SYNC
F +17V
RETURN
OHS 1
OHS 2
LVP 1
RETURN
TS201
HIGHER THAN 90°C
TS202
HIGHER THAN 110°C
CN205F
CN205M
CN104F
CN104M
102,1
102,2
TS1
HIGHER THAN 80°C
TS2
HIGHER THAN 90°C
CN207F
CN207M
CN208F
CN208M
CN206F
CN206M
+12V (FAN)
RETURN (FAN)
(BVH-12G12MA)
M9
FAN MOTOR
CN902M
CN902F
+5V
GND (+5V)
+5V SENSE
GND SENSE
GND (+5V)
GND (-5V)
-5V
-5V SENSE
CN905M
CN905F
S-REEL VH (G)
T-REEL VH (G)
S-REEL VH
T-REEL VH
CN904M
CN904F
DRUM VH (G)
CAPSTAN VH (G)
DRUM VH
CAPSTAN VH
CN903M
CN903F
POWER SENSE
DRUM VH CONT (X)
CAP VH CONT (X)
T-REEL VH CONT (X)
S-REEL VH CONT (X)
CN906M
CN906F
POWER OVERHEAT
PW ACT (SYS)
PW ACT (VID)
PW ACT (AUD)
CN907M
CN907F
RETURN (FAN)
RETURN (CON)
RETURN (SOL)
+18V
+12V SENSE
GND
-12V SENSE
GND SENSE
+12V (FAN)
+12V (CON)
+13V (SOL)
+12V
-18V
-12V
CN202M
CN202F
CN106M
CN106F
CN328M
CN328F
CN330M
CN330F
CN325M
CN325F
RM-43 BOARD
CD-36 BOARD
(TAPE TRANSPORT)
MB-140 BOARD
(TAPE TRANSPORT)

FRAME WIRING
POWER SUPPLY
BVH-3000(J) ;#10001-
BVH-3000(U/C) ;#10001-
BVH-3000PS ;#10001-
BVH-3100(J) ;#10001-
BVH-3100(U/C) ;#10001-
BVH-3100PS ;#10001-

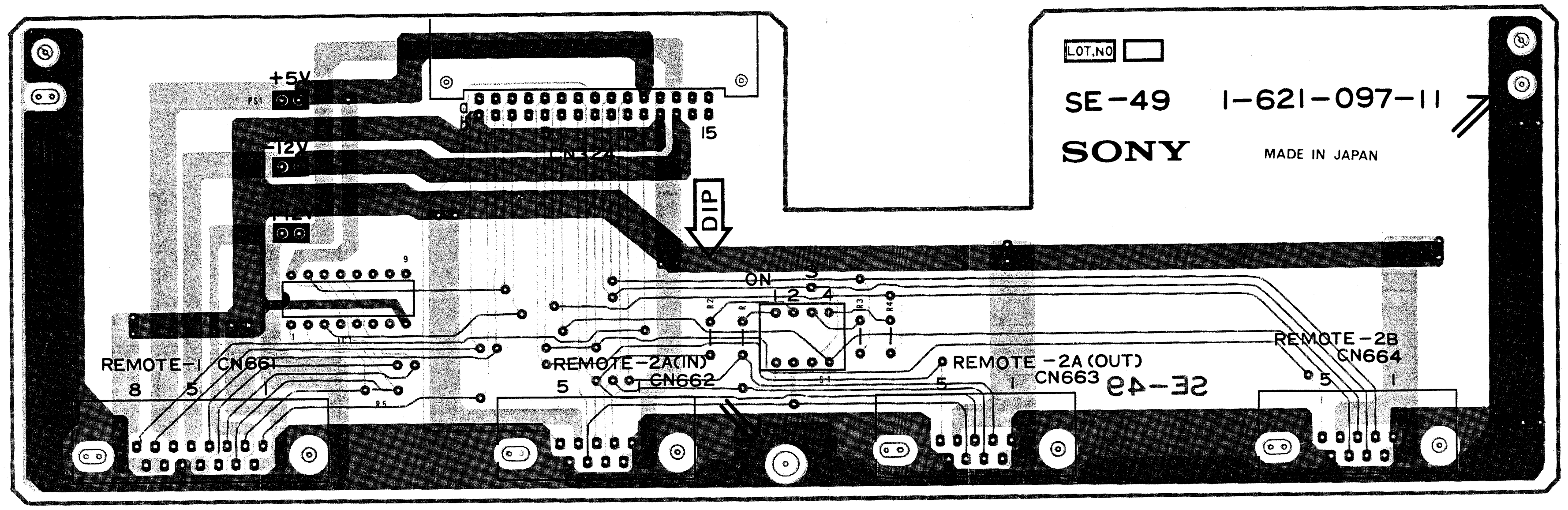
AC-82 BOARD (1-621-130-11)
Component Side


CN908
CB1
SONY MADE IN JAPAN
1
2
3
N
L
1-621-130-11
AC-82

1-621-130-11 SOLDER SIDE

SE-49 BOARD (1-621-079-11)

Component Side

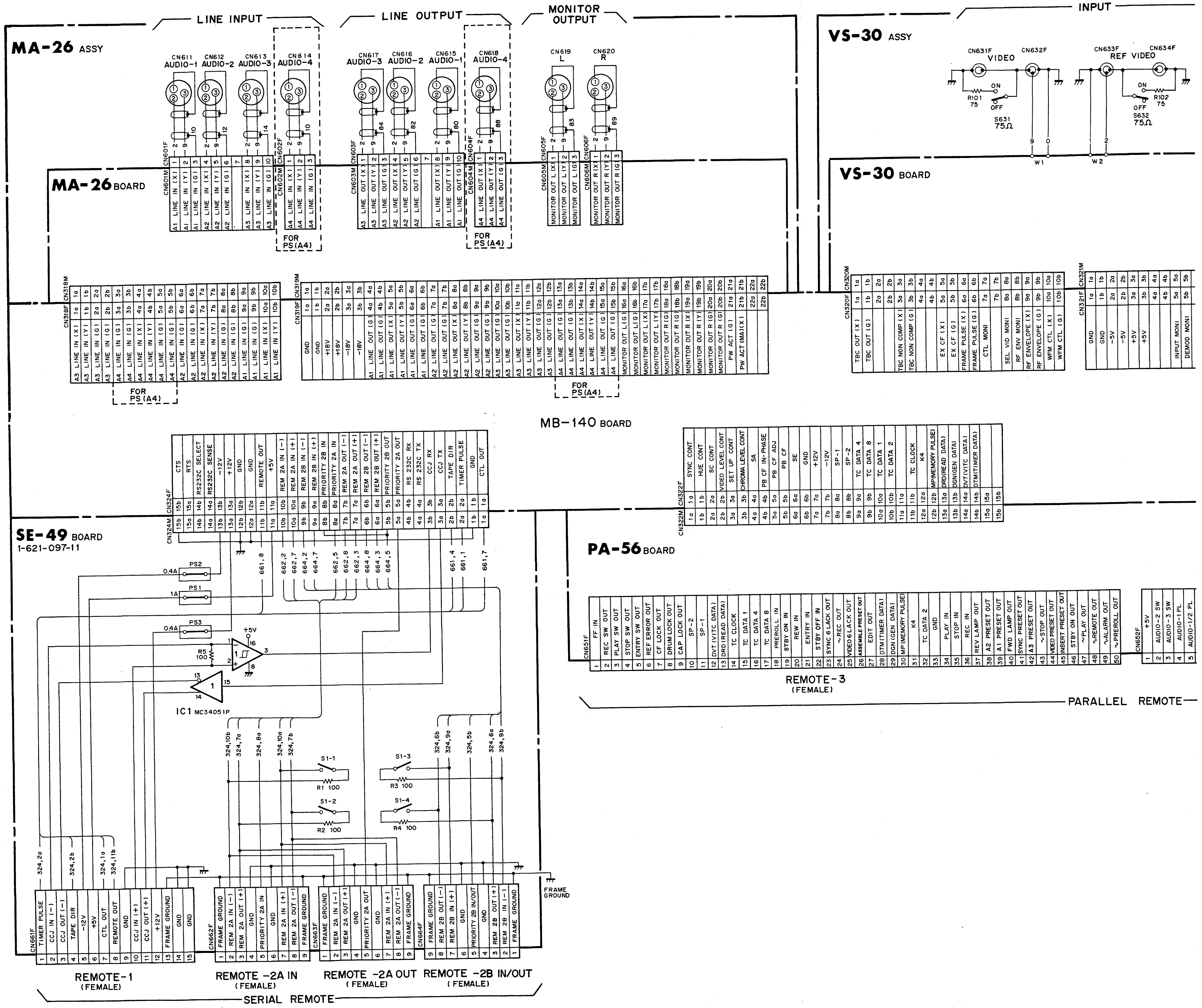

+5V
FS1
-12V
+12V
15
DIP
ON
1
2
3
4
REMOTE-1 CN661
8
5
1
REMOTE-2A(IN) CN662
5
REMOTE-2A (OUT) CN663
5
1
REMOTE-2B CN664
5
1
LOT.NO
SE-49 1-621-097-11
SONY
MADE IN JAPAN

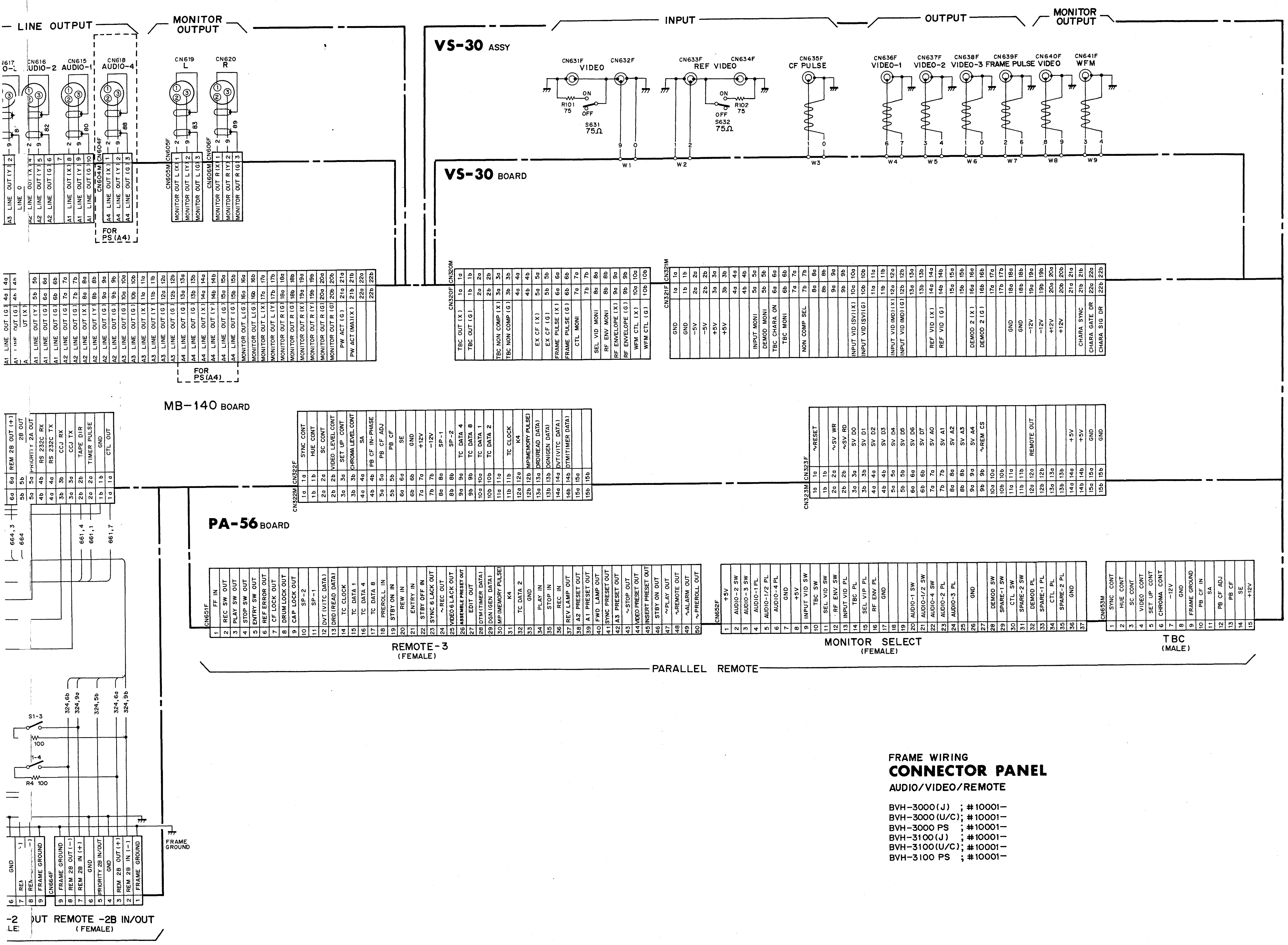
1-621-097-11 COMPONENT SIDE

1-621-097-11 SOLDER SIDE

FRAME WIRING: CONNECTOR PANEL

SE-49 BOARD: RS-422 Interface


LINE INPUT
LINE OUTPUT
MONITOR OUTPUT
INPUT
MA-26 ASSY
MA-26 BOARD
VS-30 ASSY
VS-30 BOARD
CN611 AUDIO-1
CN612 AUDIO-2
CN613 AUDIO-3
CN614 AUDIO-4
CN617 AUDIO-3
CN616 AUDIO-2
CN615 AUDIO-1
CN618 AUDIO-4
CN619 L
CN620 R
CN631F VIDEO
CN632F
CN633F REF VIDEO
CN634F
S631 75Ω
S632 75Ω
R101 75
R102 75
ON
OFF
W1
W2
FOR PS (A4)
CN318M
CN316F
CN319M
CN319F
CN320M
CN320F
CN321M
CN321F
MB-140 BOARD
CN324M
CN324F
CN322M
CN322F
SE-49 BOARD
1-621-097-11
PA-56 BOARD
PS1 1A
PS2 0.4A
PS3 0.4A
R5 100
IC1 MC34051P
S1-1
S1-2
S1-3
S1-4
R1 100
R2 100
R3 100
R4 100
FRAME GROUND
CN661F
CN662F
CN663F
CN664F
CN651F
CN652F
REMOTE-1 (FEMALE)
REMOTE -2A IN (FEMALE)
REMOTE -2A OUT (FEMALE)
REMOTE -2B IN/OUT (FEMALE)
SERIAL REMOTE
REMOTE-3 (FEMALE)
PARALLEL REMOTE


LINE OUTPUT
MONITOR OUTPUT
CN616 AUDIO-2
CN615 AUDIO-1
CN618 AUDIO-4
CN619 L
CN620 R
FOR PS(A4)
CN604M CN604F
CN605M CN605F
CN606M CN606F
MB-140 BOARD
PA-56 BOARD
VS-30 ASSY
VS-30 BOARD
INPUT
OUTPUT
MONITOR OUTPUT
CN631F VIDEO
CN632F
CN633F REF VIDEO
CN634F
CN635F CF PULSE
CN636F VIDEO-1
CN637F VIDEO-2
CN638F VIDEO-3
CN639F FRAME PULSE
CN640F VIDEO
CN641F WFM
R101 75
R102 75
S631 75Ω
S632 75Ω
ON
OFF
W1
W2
W3
W4
W5
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CN321F CN321M
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CN323M CN323F
CN651F
CN652F
CN653M
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MONITOR SELECT (FEMALE)
TBC (MALE)
PARALLEL REMOTE
CN664F
REMOTE -2B IN/OUT (FEMALE)
FRAME GROUND
S1-3
R4 100

FRAME WIRING
CONNECTOR PANEL
AUDIO/VIDEO/REMOTE

BVH-3000(J) ; #10001-
BVH-3000(U/C); #10001-
BVH-3000 PS ; #10001-
BVH-3100(J) ; #10001-
BVH-3100(U/C); #10001-
BVH-3100 PS ; #10001-

SECTION C
SEMICONDUCTOR PIN ASSIGNMENTS

この章の図の中には互換性のないダイオード，トランジスタ，ICが併記されていることがあります。部品を交換するときには必ず部品表を参照してください。
等価回路はICメーカーのData Bookに従いました。

The chart in this section may sometimes show diodes, transistors, and ICs that are not interchangeable. When replacing a component, be sure to refer to the parts list.
The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

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2SA1175	C-6
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2SA1328	C-6
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2SC1475	C-6
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2SC1826	C-6
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2SC2383	C-6
2SC2458	C-6
2SC2512	C-6
2SC2603	C-6
2SC2690A	C-6
2SC2752	C-6
2SC2785	C-7
2SC2837	C-6
2SC2878	C-6
2SC2944	C-6
2SC3068	C-6
2SC3157	C-7
2SC3559	C-6
2SC3857	C-7
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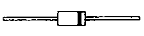

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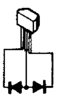
ERA82-004
ERB81-004



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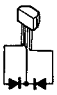

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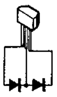

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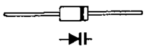

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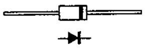

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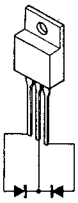

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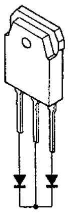

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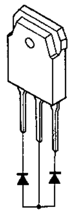

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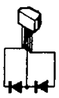

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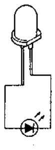

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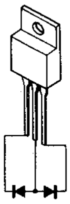
EBR5504S ; RED



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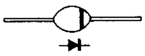

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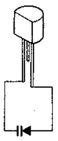

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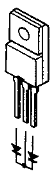

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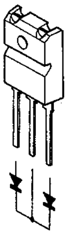

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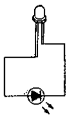
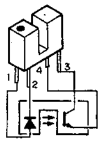
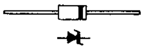


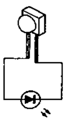
GL-3PR3 ; RED



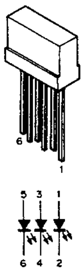
GP-1S05



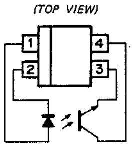
1SZ ? ?
HZS ? ?N
RD ? ?E
RD ? ?ESB ?



LN25RP ; RED
LN35BP ; GREEN
TLR214 ; RED

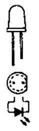


LT9101D ; RED
LT9101N ; YELLOW GREEN

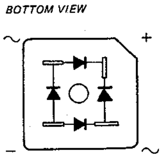


(TOP VIEW)
1
4
2
3

PS2401-1

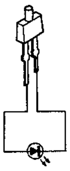


PY3668S ; YELLOW

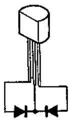


BOTTOM VIEW
~
+
−
~

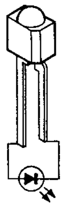
S15VB ? ?



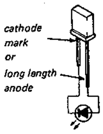
SEL1312G ; GREEN



MC921



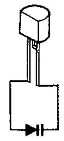
SE310 ; INFRARED

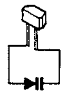


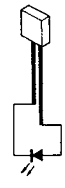
cathode
mark
or
long length
anode

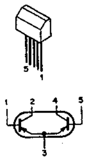
SLP255B ; GREEN
SLP455B ; YELLOW
SLP655B ; ORENGE

DIODE, TRANSISTOR

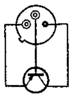

SVC321

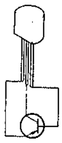

SVC321SP

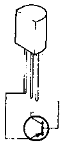

TLY211 ; YELLOW

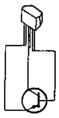


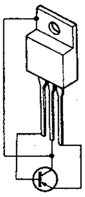
2SA798

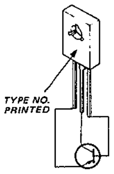
BOTTOM VIEW

2SA911

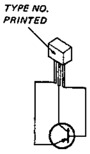

2SA1005
2SA872
2SA872A

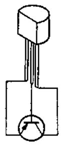

2SA1013
2SB739

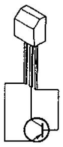

2SA1048
2SA1115

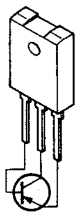

2SA1077
2SA1328

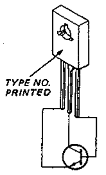

TYPE NO.
PRINTED
2SA1156
2SA1220A
2SA715

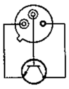

TYPE NO.
PRINTED
2SA1175
2SB810

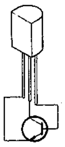

2SA1206

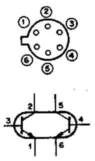

2SB733

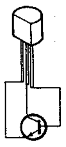

2SB1156

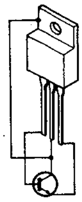

TYPE NO.
PRINTED
2SC1162
2SC2690A
2SC2752

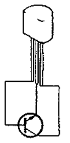
BOTTOM VIEW

2SC1252
2SC1762

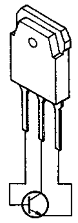

2SC1475
2SC2383
2SD788
2SD789

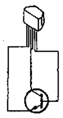
BOTTOM VIEW

①
②
③
④
⑤
⑥
2
5
3
4
1
6
2SC1733

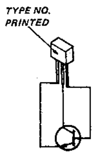

2SC1775A
2SC1815
2SC2878
2SC3068


2SC1826
2SC2315
2SC3559
2SD1061
2SD1134

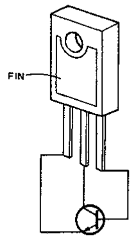

2SC2026
2SC2512


2SC2307-Y
2SC2837
2SC2944

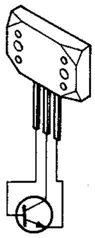

2SC2458
2SC2603


TYPE NO. PRINTED

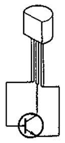
2SC2785
2SD1020



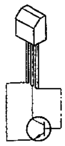
2SC3157



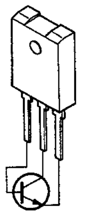
2SC3857



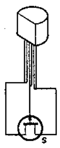
2SD734



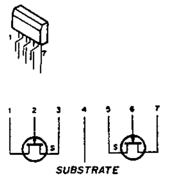
2SD773
2SD774



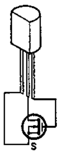
2SD1707



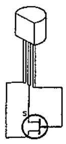
2SK162


1
7
1 2 3 4 5 6 7
S
S
SUBSTRATE

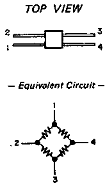
2SK389



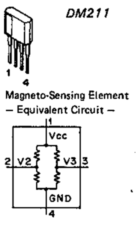
2SK422



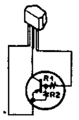
2SK523


TOP VIEW
2
3
1
4
— Equivalent Circuit —
1
2
4
3

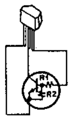
DM208


1
4
Magneto-Sensing Element
— Equivalent Circuit —
1
Vcc
2
V2
V3
3
GND
4

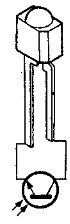
DM211



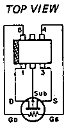
DTA114ES (R1=10K, R2=10K)
DTA114TS (R1=10K, R2=∞)
DTA124ES (R1=22K, R2=22K)
DTA143XS (R1=4.7K, R2=10K)



DTC114ES (R1=10K, R2=10K)
DTC124ES (R1=22K, R2=22K)
DTC144ES (R1=47K, R2=47K)

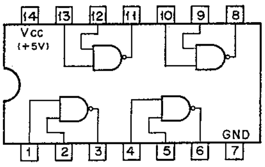


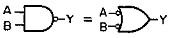
PH110


TOP VIEW
6
4
1
3
D
Sub
S
GD
GS

TX429M

74F00PC (FSC)
HD74LS00P (HITACHI)
SN74ALS00AN (TI)
SN74LS00N (TI)
TTL 2-INPUT POSITIVE-NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

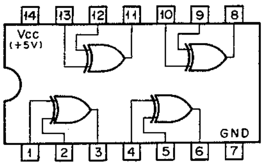


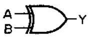
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

74F86PC (FSC)
HD74LS86P (HITACHI)
SN74LS86N (TI)
TTL EXCLUSIVE OR GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

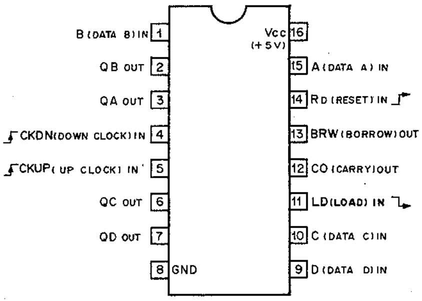


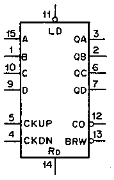
$Y = \overline{A} \cdot B + A \cdot \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

74F193PC (FSC)
TTL PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER
— TOP VIEW —


B (DATA B) IN 1
QB OUT 2
QA OUT 3
CKDN (DOWN CLOCK) IN 4
CKUP (UP CLOCK) IN 5
QC OUT 6
QD OUT 7
8 GND
Vcc (+5V) 16
15 A (DATA A) IN
14 RD (RESET) IN
13 BRW (BORROW) OUT
12 CO (CARRY) OUT
11 LD (LOAD) IN
10 C (DATA C) IN
9 D (DATA D) IN


11
LD
15 A
1 B
10 C
9 D
QA 3
QB 2
QC 6
QD 7
5 CKUP
4 CKDN
CO 12
BRW 13
RD
14

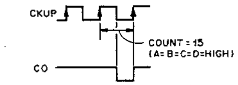
CONTROL INPUTS				MODE
RD	LD	CKUP	CKDN	
1	X	X	X	RESET TO ZERO
0	0	X	X	PRESET
0	1	↑	1	UP COUNT
0	1	1	↑	DOWN COUNT
0	1	1	1	NO COUNT

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

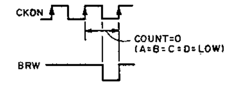
UP COUNT ↓
DOWN COUNT ↑

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

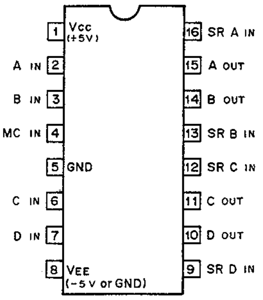
$CO = \overline{\overline{CKUP} \cdot QA \cdot QB \cdot QC \cdot QD}$

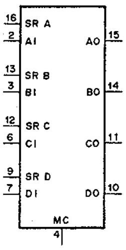

CKUP
COUNT = 15
(A=B=C=D=HIGH)
CO

$BRW = \overline{\overline{CKDN} \cdot \overline{QA} \cdot \overline{QB} \cdot \overline{QC} \cdot \overline{QD}}$

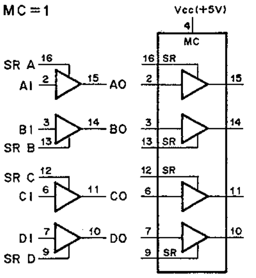

CKDN
COUNT=0
(A=B=C=D=LOW)
BRW

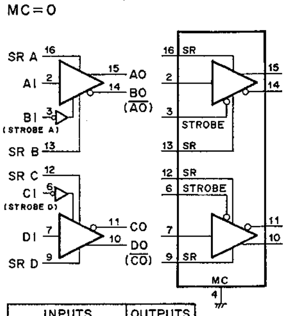
AM26LS30PC (ADVANCED MICRO DEVICES)
LINE DRIVER
— TOP VIEW —


1 Vcc (+5V)
A IN 2
B IN 3
MC IN 4
5 GND
C IN 6
D IN 7
8 VEE (-5 V or GND)
16 SR A IN
15 A OUT
14 B OUT
13 SR B IN
12 SR C IN
11 C OUT
10 D OUT
9 SR D IN


16 SR A
2 AI
AO 15
13 SR B
3 BI
BO 14
12 SR C
6 CI
CO 11
9 SR D
7 DI
DO 10
MC
4

MC ; MODE CONTROL
SR ; SLEW RATE CONTROL


MC=1
Vcc(+5V)
4
MC
SR A 16
AI 2
15 AO
BI 3
SR B 13
14 BO
SR C 12
CI 6
11 CO
DI 7
SR D 9
10 DO
16 SR
2
15
3
13 SR
14
12 SR
6
11
7
9 SR
10

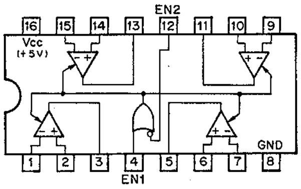

MC=0
SR A 16
AI
15 AO
14 BO
(AO)
BI 3
(STROBE A)
SR B 13
SR C 12
CI 6
(STROBE D)
DI 7
SR D 9
11 CO
10 DO
(CO)
16 SR
2
15
14
3
STROBE
13 SR
12 SR
6 STROBE
7
9 SR
11
10
MC
4

INPUTS		OUTPUTS
MC	A TO D	A TO D
1	0	0
1	1	1

INPUTS			OUTPUTS	
MC	STROBE	A & D	A & D	B & C
0	0	0	0	1
0	0	1	1	0
0	1	X	HI-Z	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

AM26LS32PC (ADVANCED MICRO DEVICES)
HIGH SPEED DIFFERENTIAL LINE RECEIVER
— TOP VIEW —


EN2
16
15
14
13
12
11
10
9
Vcc
(+5V)
GND
1
2
3
4
5
6
7
8
EN1

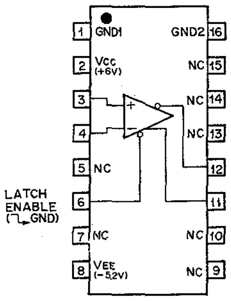
FUNCTION TABLE

EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

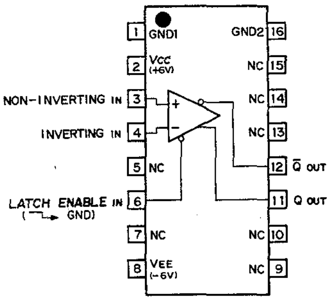
0; LOW LEVEL
1; HIGH LEVEL
HI-Z; HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

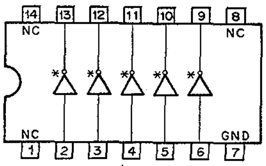
AM685DL (ADVANCED MICRO DEVICES)
VOLTAGE COMPARATOR
(OPEN EMITTER OUTPUTS)
— TOP VIEW —


1 GND1
2 Vcc (+6V)
3
4
5 NC
LATCH ENABLE (⌐↳GND) 6
7 NC
8 VEE (−5.2V)
GND2 16
NC 15
NC 14
NC 13
12
11
NC 10
NC 9

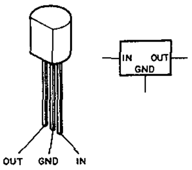
AM6685DL (ADVANCED MICRO DEVICES)
VOLTAGE COMPARATOR
(BUILT-IN LATCH)
— TOP VIEW —


1 GND1
2 Vcc (+6V)
NON-INVERTING IN 3
INVERTING IN 4
5 NC
LATCH ENABLE IN 6 (⌐↳ GND)
7 NC
8 VEE (−6V)
GND2 16
NC 15
NC 14
NC 13
12 Q̄ OUT
11 Q OUT
NC 10
NC 9

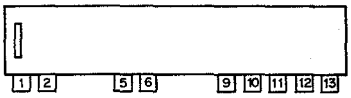
BA612 (ROHM)
M54516P (MITSUBISHI)
INVERTER WITH OPEN-COLLECTOR
(DARLINGTON-CONNECTED TRANSISTOR ARRAY)
— TOP VIEW —

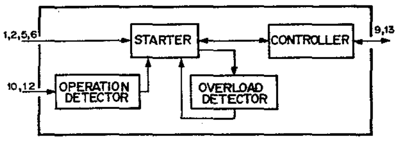

14 NC
13
12
11
10
9
8 NC
*
1 NC
2
3
4
5
6
7 GND

BA707 (ROHM)
+3.3V VOLTAGE REGULATOR

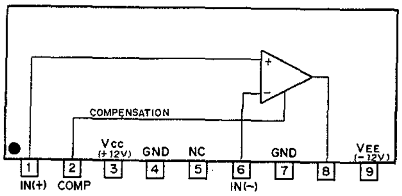

IN
OUT
GND
OUT
GND
IN

B5272 (JRM)
STARTOR OF SWITCHING REGURATOR
— PRINTED SIDE VIEW —

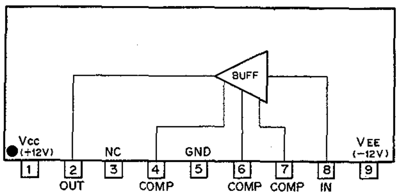

1
2
5
6
9
10
11
12
13


1,2,5,6
STARTER
CONTROLLER
9,13
10,12
OPERATION DETECTOR
OVERLOAD DETECTOR

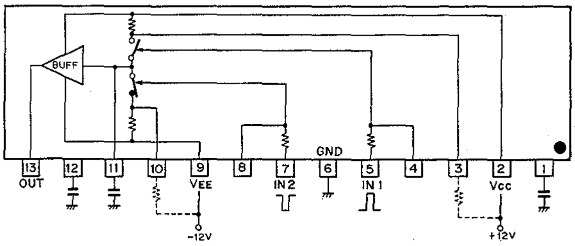
BX365A (SONY)
VIDEO AMPLIFIER
— SIDE VIEW —

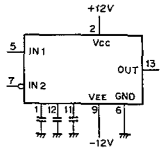

COMPENSATION
+
−
1 IN(+)
2 COMP
3 Vcc (+12V)
4 GND
5 NC
6 IN(−)
7 GND
8
9 VEE (−12V)

BX366A (SONY)
BX366AL (ROHM)
VIDEO BUFFER
— SIDE VIEW —

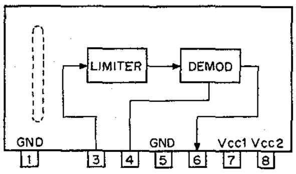

BUFF
1 Vcc (+12V)
2 OUT
3 NC
4 COMP
5 GND
6 COMP
7 COMP
8 IN
9 VEE (−12V)

BX381 (SONY)
PHASE COMPARATOR
— SIDE VIEW —

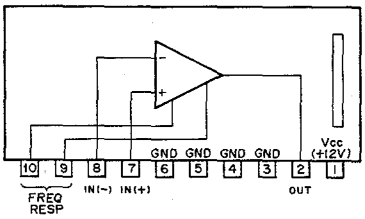

BUFF
13 OUT
12
11
10
9 VEE
8
7 IN2
6 GND
5 IN1
4
3
2 Vcc
1
−12V
+12V

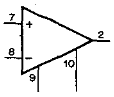

+12V
2
Vcc
5 IN1
7 IN2
OUT 13
VEE GND
1 12 11 9 6
−12V

BX1101A (SONY)
LIMITER/DEMODULATOR
— REAR VIEW —

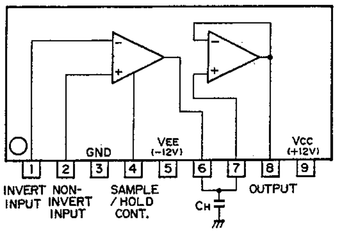

LIMITER
DEMOD
1 GND
3
4 GND
5
6
7 Vcc1
8 Vcc2

BX1156B (SONY)
HYBRID VIDEO RF PREAMPLIFIER
— PRINTED SIDE VIEW —

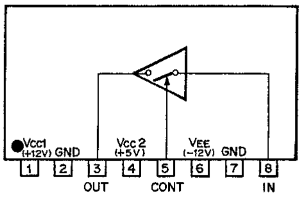

−
+
10
9
FREQ RESP
8 IN(−)
7 IN(+)
6 GND
5 GND
4 GND
3 GND
2 OUT
1 Vcc (+12V)



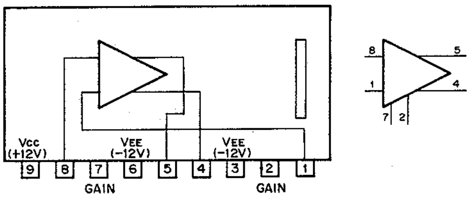
BX1244 (SONY)
SAMPLE AND HOLD.
— PRINTED SIDE VIEW —


GND
VEE (−12V)
Vcc (+12V)
1
2
3
4
5
6
7
8
9
INVERT INPUT
NON-INVERT INPUT
SAMPLE / HOLD CONT.
CH
OUTPUT

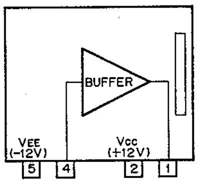
BX1306 (SONY)
VIDEO AND RF SWITCH
— SIDE VIEW —


Vcc1 (+12V)
GND
Vcc 2 (+5V)
VEE (−12V)
GND
1
2
3
4
5
6
7
8
OUT
CONT
IN

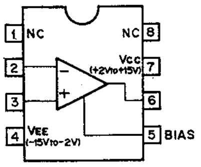
BX3930 (SONY)
HYBRID VIDEO WIDEBAND DIFFERENTIAL AMPLIFIER
— IMPRINTED SIDE —


Vcc (+12V)
VEE (−12V)
VEE (−12V)
9
8
7
6
5
4
3
2
1
GAIN
GAIN
8
5
1
4
7
2

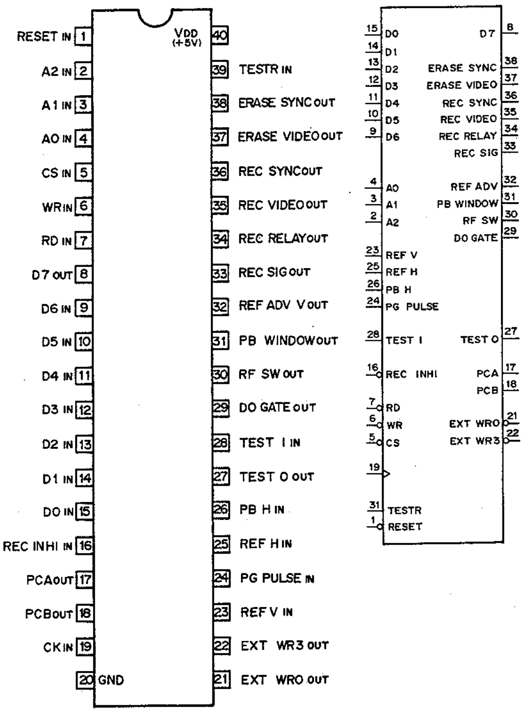
BX3931 A (SONY)
HYBRID VIDEO WIDEBAND
BUFFER AMPLIFIER
— IMPRINTED SIDE —


BUFFER
VEE (−12V)
Vcc (+12V)
5
4
2
1

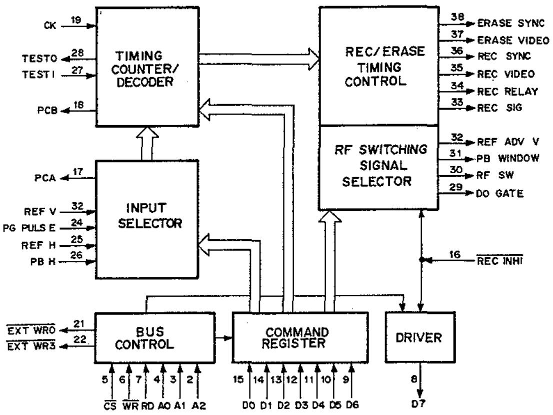
CA3080E (RCA)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1 NC
NC 8
2
Vcc (+2V to +15V) 7
3
6
4 VEE (−15V to −2V)
5 BIAS

CF77049N (TI)
C-MOS VIDEO AND SYNC HEAD SIGNAL CONTROLLER
— TOP VIEW —


RESET IN 1
A2 IN 2
A1 IN 3
A0 IN 4
CS IN 5
WR IN 6
RD IN 7
D7 OUT 8
D6 IN 9
D5 IN 10
D4 IN 11
D3 IN 12
D2 IN 13
D1 IN 14
D0 IN 15
REC INHI IN 16
PCA OUT 17
PCB OUT 18
CK IN 19
20 GND
VDD (+5V) 40
39 TESTR IN
38 ERASE SYNC OUT
37 ERASE VIDEO OUT
36 REC SYNC OUT
35 REC VIDEO OUT
34 REC RELAY OUT
33 REC SIG OUT
32 REF ADV V OUT
31 PB WINDOW OUT
30 RF SW OUT
29 DO GATE OUT
28 TEST I IN
27 TEST O OUT
26 PB H IN
25 REF H IN
24 PG PULSE IN
23 REF V IN
22 EXT WR3 OUT
21 EXT WR0 OUT
15 D0
14 D1
13 D2
12 D3
11 D4
10 D5
9 D6
4 A0
3 A1
2 A2
23 REF V
25 REF H
26 PB H
24 PG PULSE
28 TEST I
16 REC INHI
7 RD
6 WR
5 CS
19
31 TESTR
1 RESET
D7 8
ERASE SYNC 38
ERASE VIDEO 37
REC SYNC 36
REC VIDEO 35
REC RELAY 34
REC SIG 33
REF ADV 32
PB WINDOW 31
RF SW 30
DO GATE 29
TEST O 27
PCA 17
PCB 18
EXT WR0 21
EXT WR3 22

D0 ~ D6;	DATA INPUTS
D7;	REC INHIBIT OUTPUT
A0 ~ A2;	COMMAND REGISTER SELECT INPUTS
ERASE SYNC;	SYNC ERASE HEAD CONTROL OUTPUT
ERASE VIDEO;	VIDEO ERASE HEAD CONTROL OUTPUT
REC SYNC;	SYNC HEAD CONTROL OUTPUT
REC VIDEO;	VIDEO HEAD CONTROL OUTPUT
REC RELAY;	REC RELAY CONTROL OUTPUT
REC SIG;	RECORD MODE OUTPUT (REC MODE=0)
REF AD V;	REF ADV V SIGNAL OUTPUT
PB WINDOW;	PB WINDOW SIGNAL OUTPUT
RF SW;	RF SW OUTPUT (VIDEO=1, SYNC=0)
DO GATE;	DROP OUT GATE SIGNAL OUTPUT
REF V;	REFERENCE V INPUT
REF H;	REFERENCE H INPUT
PB H;	PB H INPUT
PG PULSE;	PG PULSE INPUT
TESTO;	TEST OUTPUT (CK x 1/64)
TESTI;	TEST INPUT
PCA;	OUTPUT FOR PHASE COMPARETOR A ($\overline{\text{REF H}}$)
PCB;	OUTPUT FOR PHASE COMPARETOR B (CK x 1/256)
EXT WR0;	LATCH PULSE OUTPUT FOR EXPAND WRITE PORT
EXT WR3;	LATCH PULSE OUTPUT FOR EXPAND WRITE PORT
REC INHI;	RECORD INHIBIT INPUT
TESTR;	TEST RESET INPUT
RESET;	RESET INPUT
RD;	READ INPUT
WR;	WRITE INPUT
CS;	CHIP SELECT INPUT


CK 19
TESTO 28
TESTI 27
PCB 18
TIMING COUNTER/ DECODER
PCA 17
REF V 32
PG PULSE 24
REF H 25
PB H 26
INPUT SELECTOR
REC/ERASE TIMING CONTROL
38 ERASE SYNC
37 ERASE VIDEO
36 REC SYNC
35 REC VIDEO
34 REC RELAY
33 REC SIG
RF SWITCHING SIGNAL SELECTOR
32 REF ADV V
31 PB WINDOW
30 RF SW
29 DO GATE
16 REC INHI
EXT WR0 21
EXT WR3 22
BUS CONTROL
COMMAND REGISTER
DRIVER
5 6 7 4 3 2
CS WR RD A0 A1 A2
15 14 13 12 11 10 9
D0 D1 D2 D3 D4 D5 D6
8
D7

ADDRESS MAP
WRITE MODE CS=WR=0 RD=1

A2	A1	A0	D7	D6	D5	D4	D3	D2	D1	D0
0	0	0		VIDEO TEST	PB H SEL	PAL / NTSC				
0	0	1		VIDEO CONF1	SYNC REC	VIDEO REC	DT SEL	1.5HD SEL	V+S REC	FLY ERS
0	1	0					RF SW DLY3	RF SW DLY2	RF SW DLY1	RF SW DLY0

ADDRESS MAP
READ MODE CS=RD=0 WR=1

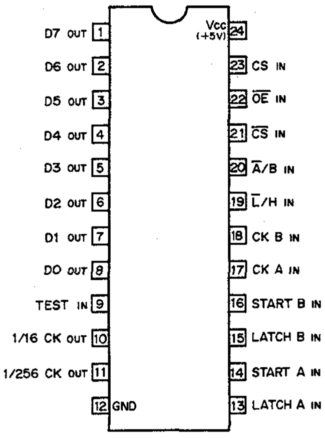
A2	A1	A0	D7	D6	D5	D4	D3	D2	D1	D0
0	0	0	REC INHI							

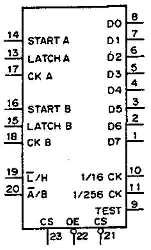
EXTWR0, EXTWR3

A2	A1	A0	CS	WR	EXTWR0	EXWR 3
0	0	0	0	0	0	1
0	1	1	0	0	1	0
THE OTHERS					1	1

0; LOW LEVEL
1; HIGH LEVEL

CF77074NT (TI)
CLOCK COUNTER
— TOP VIEW —


D7 OUT 1
D6 OUT 2
D5 OUT 3
D4 OUT 4
D3 OUT 5
D2 OUT 6
D1 OUT 7
D0 OUT 8
TEST IN 9
1/16 CK OUT 10
1/256 CK OUT 11
12 GND
Vcc (+5V) 24
23 CS IN
22 OE IN
21 CS IN
20 A/B IN
19 L/H IN
18 CK B IN
17 CK A IN
16 START B IN
15 LATCH B IN
14 START A IN
13 LATCH A IN

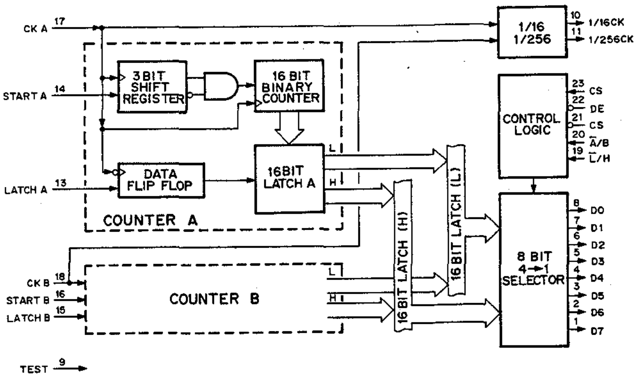

14 START A
13 LATCH A
17 CK A
16 START B
15 LATCH B
18 CK B
19 L/H
20 A/B
D0 8
D1 7
D2 6
D3 5
D4 4
D5 3
D6 2
D7 1
1/16 CK 10
1/256 CK 11
TEST 9
CS OE CS
23 22 21

$\overline{A}$/B ; DATA LATCH A/B SELECT INPUT
CKA,CKB; CLOCK INPUT
(⎍ → COUNT UP
⎍ → LATCH)
CS ; CHIP SELECT INPUT
D0-D7 ; DATA OUTPUT
$\overline{L}$/H ; DATA LATCH LOW/HIGH SELECT INPUT
OE ; OUTPUT ENABLE INPUT

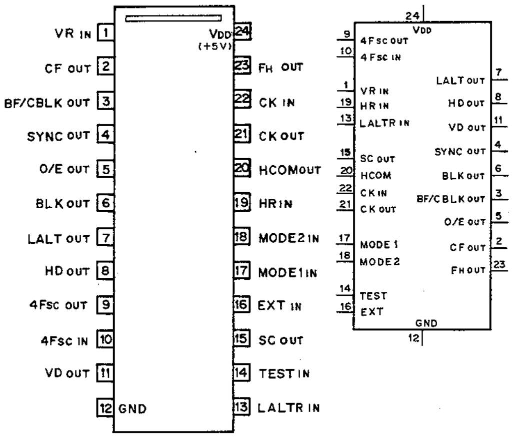
MODE SELECT

INPUT					OUTPUT
CS	$\overline{CS}$	$\overline{OE}$	$\overline{A}$/B	$\overline{L}$/H	D0–D7
0	X	X	X	X	HI–Z
1	0	0	0	0	LATCH A LOW BYTE
1	0	0	0	1	LATCH A HIGH BYTE
1	0	0	1	0	LATCH B LOW BYTE
1	0	0	1	1	LATCH B HIGH BYTE
X X	1 X	X 1	X X	X X	HI–Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


CK A 17
START A 14
LATCH A 13
3BIT SHIFT REGISTER
16 BIT BINARY COUNTER
DATA FLIP FLOP
16BIT LATCH A
L
H
COUNTER A
CK B 18
START B 16
LATCH B 15
COUNTER B
L
H
16 BIT LATCH (H)
16 BIT LATCH (L)
1/16 1/256
10 1/16CK
11 1/256CK
CONTROL LOGIC
23 CS
22 OE
21 CS
20 A/B
19 L/H
8 BIT 4→1 SELECTOR
8 D0
7 D1
6 D2
5 D3
4 D4
3 D5
2 D6
1 D7
TEST 9

CX773B (SONY)
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
— TOP VIEW —


VR IN 1
CF OUT 2
BF/CBLK OUT 3
SYNC OUT 4
O/E OUT 5
BLK OUT 6
LALT OUT 7
HD OUT 8
4Fsc OUT 9
4Fsc IN 10
VD OUT 11
12 GND
13 LALTR IN
14 TEST IN
15 SC OUT
16 EXT IN
17 MODE1 IN
18 MODE2 IN
19 HR IN
20 HCOM OUT
21 CK OUT
22 CK IN
23 FH OUT
24 VDD (+5V)
24 VDD
9 4Fsc OUT
10 4Fsc IN
1 VR IN
19 HR IN
13 LALTR IN
15 SC OUT
20 HCOM
22 CK IN
21 CK OUT
17 MODE 1
18 MODE 2
14 TEST
16 EXT
LALT OUT 7
HD OUT 8
VD OUT 11
SYNC OUT 4
BLK OUT 6
BF/CBLK OUT 3
O/E OUT 5
CF OUT 2
FH OUT 23
GND 12

O/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

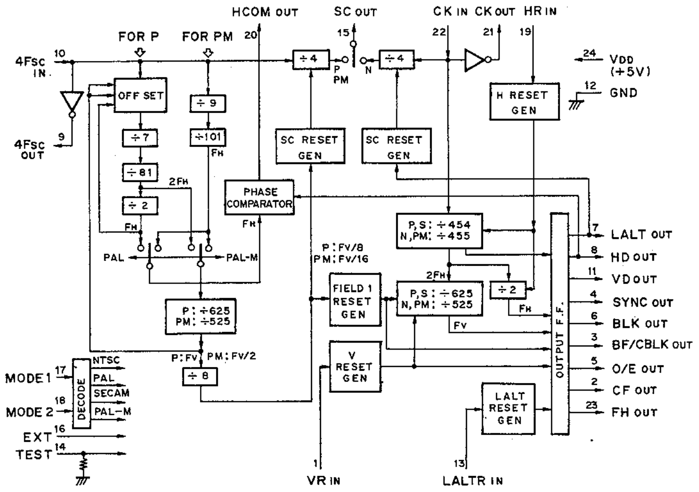
SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910 FH
PAL	1135 FH+2Fv	908 FH
PALM	909 FH	910 FH
SECAM	———	908 FH

INPUTS		SYSTEM
MODE 1	MODE 2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

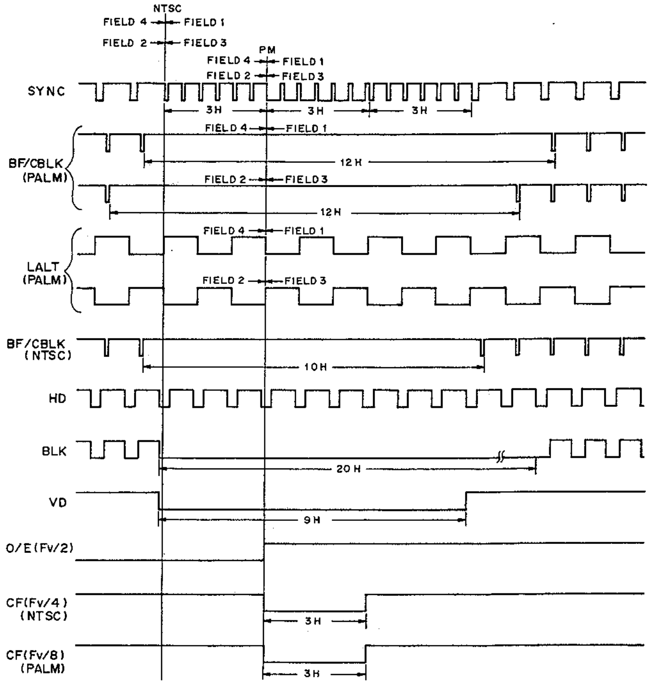
0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

INPUTS		FUNCTION
EXT	TEST	
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

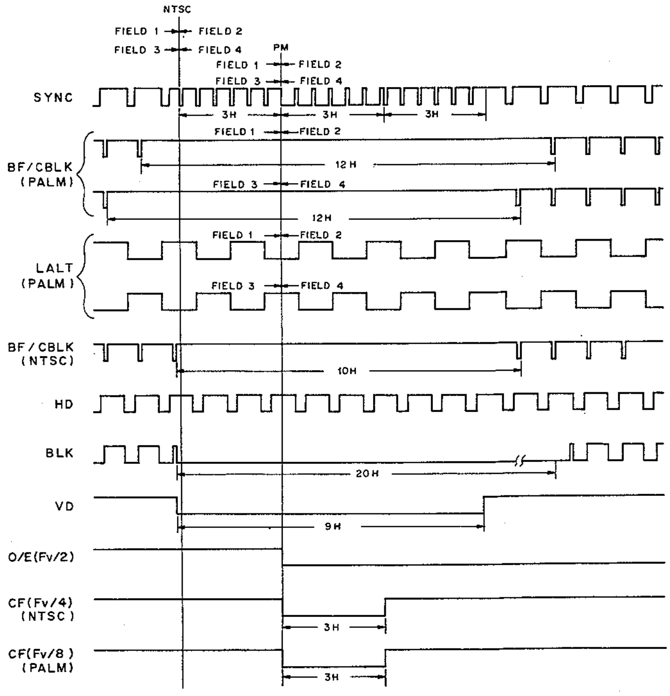
TEST "0": OPEN (INTERNALLY PULLED DOWN)

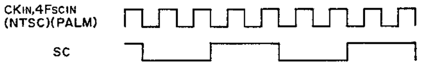

HCOM OUT
SC OUT
CK IN
CK OUT
HR IN
FOR P
FOR PM
4Fsc IN 10
4Fsc OUT 9
OFF SET
÷7
÷81
÷2
2FH
FH
÷9
÷101
FH
PAL
PAL-M
P: ÷625
PM: ÷525
P: FV
PM: FV/2
÷8
PHASE COMPARATOR
FH
÷4
P
PM
N
÷4
SC RESET GEN
SC RESET GEN
H RESET GEN
VDD (+5V) 24
GND 12
P,S: ÷454
N,PM: ÷455
P: FV/8
PM: FV/16
2FH
FIELD 1 RESET GEN
P,S: ÷625
N,PM: ÷525
FV
÷2
FH
V RESET GEN
LALT RESET GEN
OUTPUT F.F.
7 LALT OUT
8 HD OUT
11 VD OUT
4 SYNC OUT
6 BLK OUT
3 BF/CBLK OUT
5 O/E OUT
2 CF OUT
23 FH OUT
DECODE
NTSC
PAL
SECAM
PAL-M
MODE 1 17
MODE 2 18
EXT 16
TEST 14
1 VR IN
13 LALTR IN
20
15
22
21
19

NTSC, PAL-M (FIELD 1,3)

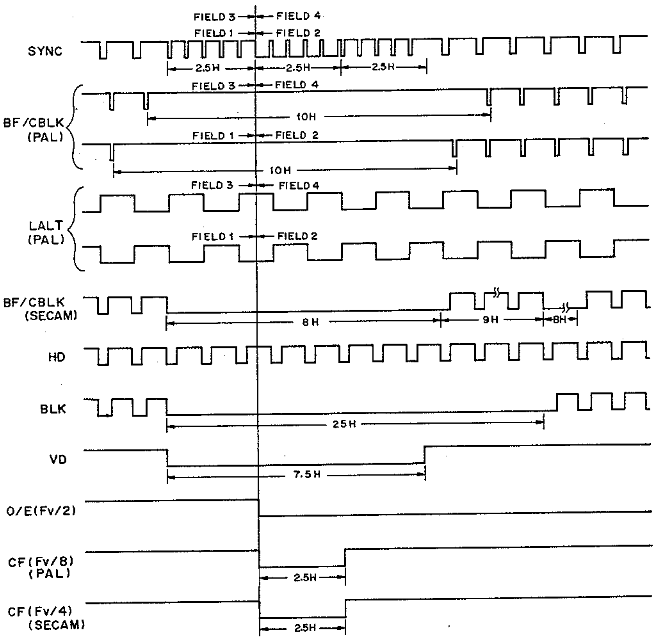

NTSC
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
PM
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
SYNC
3H
3H
3H
BF/CBLK (PALM)
FIELD 4 → FIELD 1
12H
FIELD 2 → FIELD 3
12H
LALT (PALM)
FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
BF/CBLK (NTSC)
10H
HD
BLK
20H
VD
9H
O/E(Fv/2)
CF(Fv/4) (NTSC)
3H
CF(Fv/8) (PALM)
3H

NTSC, PAL-M (FIELD 2,4)

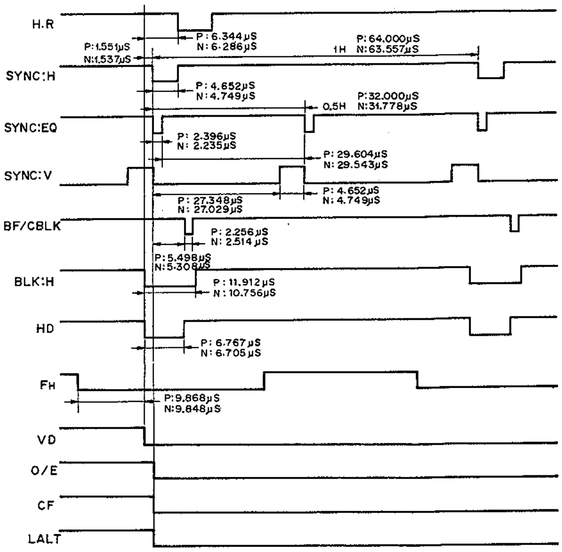

NTSC
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
PM
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
SYNC
3H
3H
3H
BF/CBLK (PALM)
FIELD 1 → FIELD 2
12H
FIELD 3 → FIELD 4
12H
LALT (PALM)
FIELD 1 → FIELD 2
FIELD 3 → FIELD 4
BF/CBLK (NTSC)
10H
HD
BLK
20H
VD
9H
O/E(Fv/2)
CF(Fv/4) (NTSC)
3H
CF(Fv/8) (PALM)
3H


CKIN,4FSCIN (NTSC)(PALM)
SC

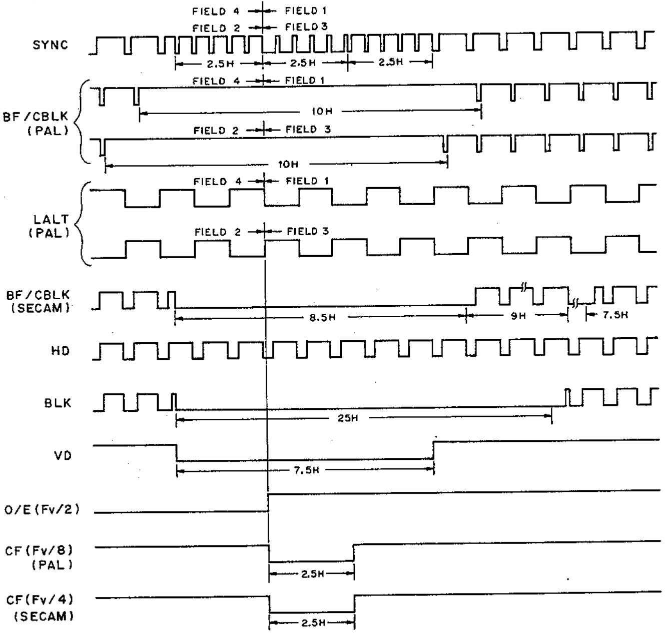
PAL, SECAM (FIELD 4,2)

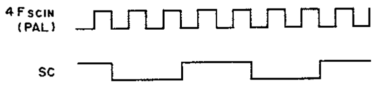

FIELD 3 → FIELD 4
FIELD 1 → FIELD 2
SYNC
2.5H
2.5H
2.5H
BF/CBLK (PAL)
10H
LALT (PAL)
BF/CBLK (SECAM)
8H
9H
8H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
CF(Fv/4) (SECAM)

P:PAL, SECAM
N:NTSC, PALM

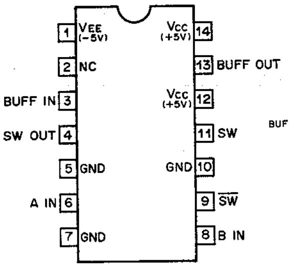

H.R
SYNC:H
SYNC:EQ
SYNC:V
BF/CBLK
BLK:H
HD
FH
VD
O/E
CF
LALT
P:1.551μS N:1.537μS
P:6.344μS N:6.286μS
1H P:64.000μS N:63.557μS
P:4.652μS N:4.749μS
0.5H P:32.000μS N:31.778μS
P:2.396μS N:2.235μS
P:29.604μS N:29.543μS
P:4.652μS N:4.749μS
P:27.348μS N:27.029μS
P:2.256μS N:2.514μS
P:5.498μS N:5.308μS
P:11.912μS N:10.756μS
P:6.767μS N:6.705μS
P:9.868μS N:9.848μS

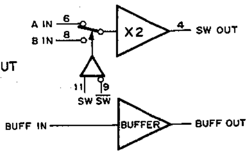
PAL, SECAM (FIELD1,3)


FIELD 4 → FIELD 1
FIELD 2 → FIELD 3
SYNC
2.5H
2.5H
2.5H
BF/CBLK (PAL)
10H
LALT (PAL)
BF/CBLK (SECAM)
8.5H
9H
7.5H
HD
BLK
25H
VD
7.5H
O/E(Fv/2)
CF(Fv/8) (PAL)
CF(Fv/4) (SECAM)


4Fscin (PAL)
SC

CX20158 (SONY)
VIDEO SWITCHER AND BUFFER
— TOP VIEW —


1 VEE (-5V)
2 NC
BUFF IN 3
SW OUT 4
5 GND
A IN 6
7 GND
Vcc (+5V) 14
13 BUFF OUT
Vcc (+5V) 12
11 SW
GND 10
9 SW
8 B IN


A IN 6
B IN 8
X2
4 SW OUT
11 9
SW SW
BUFF IN
BUFFER
BUFF OUT

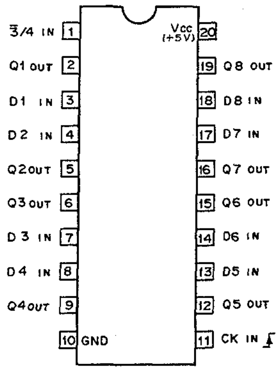
SW	$\overline{SW}$	INPUT
0	0	—
0	1	B
1	0	A
1	1	—

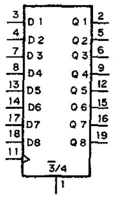
0;LOW LEVEL
1;HIGH LEVEL
–;INDEFINITE

CX20160 (SONY)

TTL OCTAL 3 OR 4 STAGE SHIFT REGISTER

— TOP VIEW —


3/4 IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
Vcc (+5V) 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 CK IN

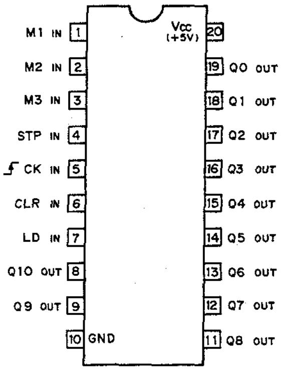

D1 D2 D3 D4 D5 D6 D7 D8
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8
3/4

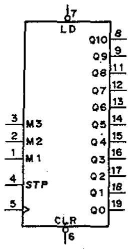
3/4; TOTAL STAGE SELECTION SIGNAL INPUT
H: 4 STAGES, L: 3 STAGES

CX20194 (SONY)

BIPOLAR 11-BIT SYNCHRONOUS BINARY COUNTER

— TOP VIEW —

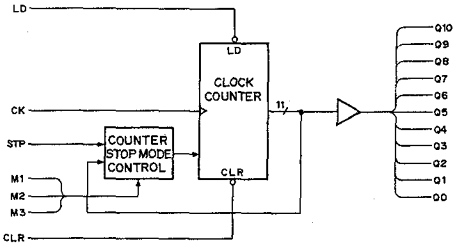

M1 IN 1
M2 IN 2
M3 IN 3
STP IN 4
CK IN 5
CLR IN 6
LD IN 7
Q10 OUT 8
Q9 OUT 9
10 GND
Vcc (+5V) 20
19 Q0 OUT
18 Q1 OUT
17 Q2 OUT
16 Q3 OUT
15 Q4 OUT
14 Q5 OUT
13 Q6 OUT
12 Q7 OUT
11 Q8 OUT


LD
M3 M2 M1
STP
CLR
Q10 Q9 Q8 Q7 Q6 Q5 Q4 Q3 Q2 Q1 Q0

M3	M2	M1	COUNT *
0	0	0	909
0	0	1	910
0	1	0	1024
0	1	1	1135
1	0	0	525
1	0	1	625
1	1	0	1125
1	1	1	2048

*; DECIMAL NUMBER
0; LOW LEVEL
1; HIGH LEVEL

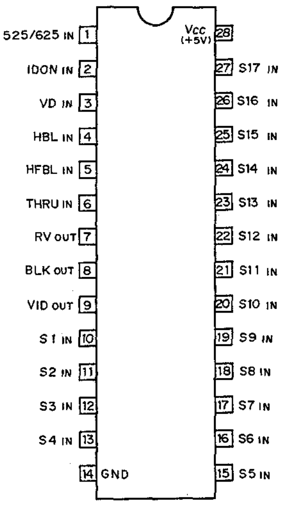
M1, M2, M3;
COUNT LIMIT SETTING SIGNAL INPUT
STP; COUNTER STOP MODE CONTROL INPUT
CLR; SYNCHRONOUS COUNTER CLEAR INPUT
LD; ASYNCHRONOUS COUNTER LOAD INPUT

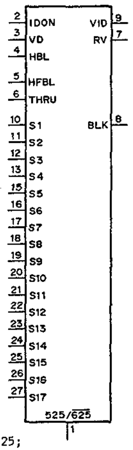

LD
CK
STP
M1
M2
M3
CLR
COUNTER STOP MODE CONTROL
CLOCK COUNTER
LD
CLR
11
Q10 Q9 Q8 Q7 Q6 Q5 Q4 Q3 Q2 Q1 Q0

CX20162 (SONY)

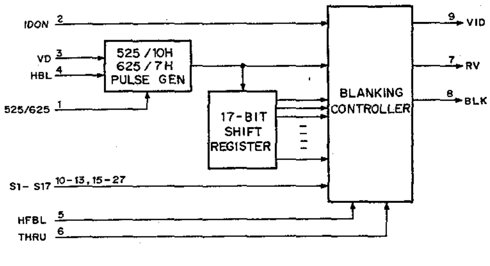
BIPOLAR/TTL VERTICAL BLANKING WIDTH CONTROLLER

— TOP VIEW —


525/625 IN 1
IDON IN 2
VD IN 3
HBL IN 4
HFBL IN 5
THRU IN 6
RV OUT 7
BLK OUT 8
VID OUT 9
S1 IN 10
S2 IN 11
S3 IN 12
S4 IN 13
14 GND
Vcc (+5V) 28
27 S17 IN
26 S16 IN
25 S15 IN
24 S14 IN
23 S13 IN
22 S12 IN
21 S11 IN
20 S10 IN
19 S9 IN
18 S8 IN
17 S7 IN
16 S6 IN
15 S5 IN


IDON VD HBL HFBL THRU
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17
VID RV BLK
525/625

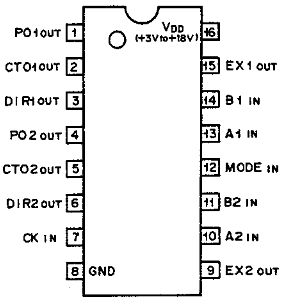
525/625;
525 LINES/625 LINES SETTING INPUT
IDON; SECAM ID ON/OFF SIGNAL INPUT
HBL; H BLANKING SIGNAL INPUT
HFBL; HALF H BLANKING SIGNAL INPUT
THRU; FORCIBLE BLANKING SIGNAL INPUT
S1-S17;
BLANKING LINE SELECTION SWITCH INPUTS
RV; 14TH LINE TIMING SIGNAL OUTPUT
BLK; BLANKING SIGNAL OUTPUT
VID; SECAM ID TIMING SIGNAL OUTPUT

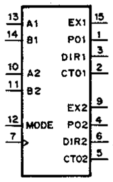

IDON 2
VD 3
HBL 4
525/625 1
525/10H 625/7H PULSE GEN
17-BIT SHIFT REGISTER
S1-S17 10-13, 15-27
HFBL 5
THRU 6
BLANKING CONTROLLER
9 VID
7 RV
8 BLK

CX23028 (SONY)

C-MOS SYNCHRONOUS ROTATIONAL DIRECTION DETECTOR

— TOP VIEW —


PO1 OUT 1
CTO1 OUT 2
DIR1 OUT 3
PO2 OUT 4
CTO2 OUT 5
DIR2 OUT 6
CK IN 7
8 GND
VDD (+3V to +18V) 16
15 EX1 OUT
14 B1 IN
13 A1 IN
12 MODE IN
11 B2 IN
10 A2 IN
9 EX2 OUT


13 A1
14 B1
10 A2
11 B2
12 MODE
7
EX1 15
PO1 1
DIR1 3
CTO1 2
EX2 9
PO2 4
DIR2 6
CTO2 5

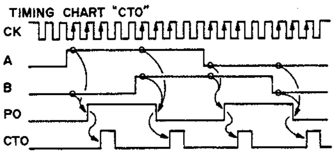
A,B ; SIGNAL INPUTS
EX ; A⊕B
PO ; A⊕B (SYNCHRONOUS)
DIR ; DIRECTION OUTPUT
CTO ; COUNT PULSE OUTPUT
MODE ; DIR1 & CTO1 MODE SELECT
⊕ ; EXCLUSIVE-OR

MODE="1"

DIRECTION OUTPUT "DIR"

INPUTS	DIR
A∠B	1
B∠A	0

TIMING CHART "CTO"



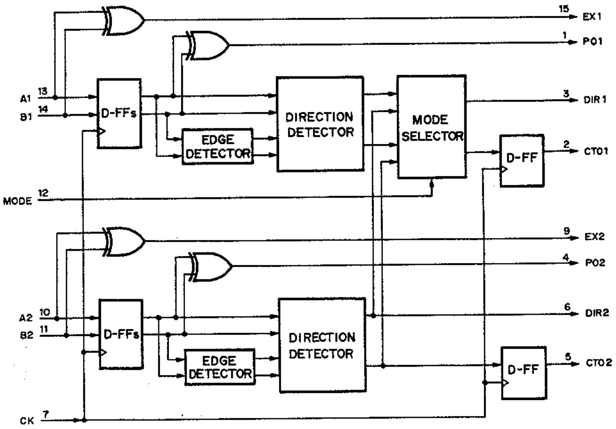
MODE="0"

DIRECTION OUTPUT "DIR"

INPUTS		DIR 1	DIR 2
CH1	CH2		
A1∠B1	A2∠B2	1	THE SAME FUNCTION OF MODE "1"
B1∠A1	A2∠B2	OUTPUT "1" AND "0" ALTERNATELY	
A1∠B1	B2∠A2		
B1∠A1	B2∠A2	0	

CTO 1 ; CTO1 with MODE "0" = CTO1 with MODE "1" + CTO 2
CTO 2 ; THE SAME FUNCTION OF MODE "1"

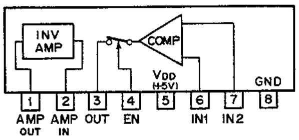
1 ; HIGH LEVEL
0 ; LOW LEVEL
A∠B ; THE PHASE OF SIGNAL A IS IN ADVANCE FOR THE PHASE OF B.


A1 13
B1 14
MODE 12
A2 10
B2 11
CK 7
D-FFs
EDGE DETECTOR
DIRECTION DETECTOR
MODE SELECTOR
D-FF
D-FFs
EDGE DETECTOR
DIRECTION DETECTOR
D-FF
15 EX1
1 PO1
3 DIR1
2 CTO1
9 EX2
4 PO2
6 DIR2
5 CTO2

CX23065 (SONY)

N-MOS PHASE COMPARATOR WITH INVERSION AMPLIFIER

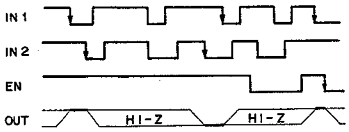
— PRINTED SIDE VIEW —


INV AMP
COMP
VDD (+5V)
GND
1 AMP OUT
2 AMP IN
3 OUT
4 EN
5
6 IN1
7 IN2
8

EN	OUT
1	ACTIVE
0	HIGH IMPEDANCE

1 ; HIGH LEVEL
0 ; LOW LEVEL

TIMMING CHART

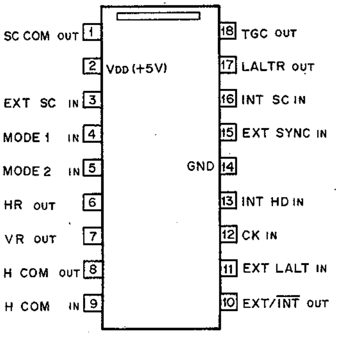


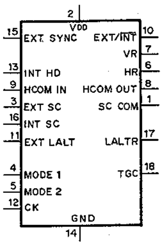
HI-Z ; HI-IMPEDANCE

CX7903 (SONY)

C-MOS GENLOCK DRIVER FOR CX773A

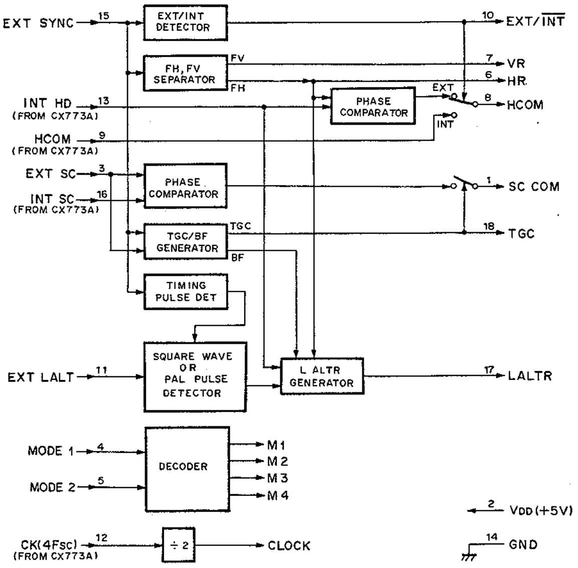
— TOP VIEW —


SC COM OUT 1
2 VDD (+5V)
EXT SC IN 3
MODE 1 IN 4
MODE 2 IN 5
HR OUT 6
VR OUT 7
H COM OUT 8
H COM IN 9
18 TGC OUT
17 LALTR OUT
16 INT SC IN
15 EXT SYNC IN
GND 14
13 INT HD IN
12 CK IN
11 EXT LALT IN
10 EXT/INT OUT


2 VDD
15 EXT SYNC
13 INT HD
9 HCOM IN
3 EXT SC
16 INT SC
11 EXT LALT
4 MODE 1
5 MODE 2
12 CK
EXT/INT 10
VR 7
HR 6
HCOM OUT 8
SC COM 1
LALTR 17
TGC 18
GND 14

INPUTS		EXT LOCK MODE	
MODE 2	MODE 1		
0	0	M1	PAL: VBS
0	1	M2	PALM: VBS
1	0	M3	PAL: VS/SC/LALT
			SECAM: VS/SC/LALT
1	1	M4	NTSC: VBS
			NTSC: VS/SC
			PALM: VS/SC/LALT

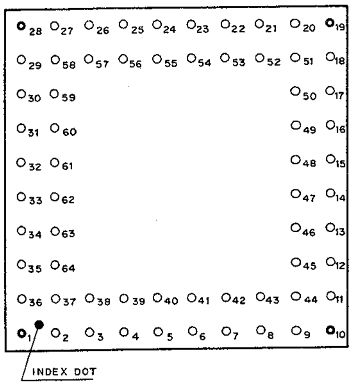
0 ; LOW LEVEL
1 ; HIGH LEVEL

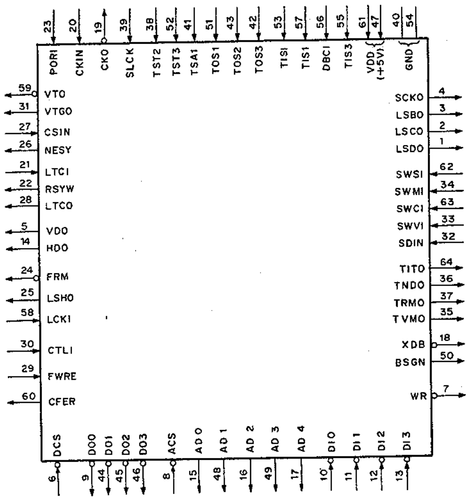

EXT SYNC 15
INT HD 13 (FROM CX773A)
HCOM 9 (FROM CX773A)
EXT SC 3
INT SC 16 (FROM CX773A)
EXT LALT 11
MODE 1 4
MODE 2 5
CK(4Fsc) 12 (FROM CX773A)
EXT/INT DETECTOR
FH, FV SEPARATOR
FV
FH
PHASE COMPARATOR
EXT
INT
PHASE COMPARATOR
TGC/BF GENERATOR
TGC
BF
TIMING PULSE DET
SQUARE WAVE OR PAL PULSE DETECTOR
L ALTR GENERATOR
DECODER
M1
M2
M3
M4
÷2
CLOCK
10 EXT/INT
7 VR
6 HR
8 HCOM
1 SC COM
18 TGC
17 LALTR
2 VDD (+5V)
14 GND

CX7907A (SONY)

C-MOS TIME CODE GENERATOR

— TOP VIEW —


28
27
26
25
24
23
22
21
20
19
29
58
57
56
55
54
53
52
51
18
30
59
50
17
31
60
49
16
32
61
48
15
33
62
47
14
34
63
46
13
35
64
45
12
36
37
38
39
40
41
42
43
44
11
1
2
3
4
5
6
7
8
9
10
INDEX DOT


PORI
CKIN
CKO
SLCK
TST2
TST3
TSA1
TOS1
TOS2
TOS3
TISI
TIS1
DBCI
TIS3
VDD (+5V)
GND
VTO
VTGO
CSIN
NESY
LTCI
RSYW
LTCO
VDO
HDO
FRM
LSHO
LCKI
CTLI
FWRE
CFER
SCKO
LSBO
LSCO
LSDO
SWSI
SWMI
SWCI
SWVI
SDIN
TITO
TNDO
TRMO
TVMO
XDB
BSGN
WR
DCS
DO0
DO1
DO2
DO3
ACS
AD0
AD1
AD2
AD3
AD4
DI0
DI1
DI2
DI3

PIN ASSIGNMENT

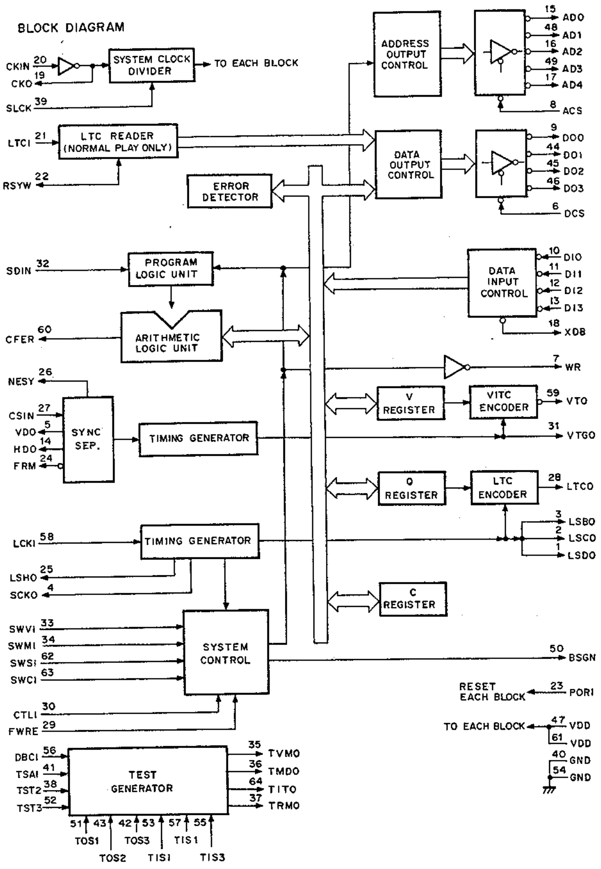
Pin No.	IN	OUT	SYMBOL
1		o	LSDO
2		o	LSCO
3		o	LSBO
4		o	SCKO
5		o	VDO
6	o		DCS
7		o	WR
8	o		ACS
9		o	DO0
10	o		DI0
11	o		DI1
12	o		DI2
13	o		DI3
14		o	HDO
15		o	AD0
16		o	AD2

Pin No.	IN	OUT	SYMBOL
17		o	AD4
18		o	XDB
19		o	CKO
20	o		CKIN
21	o		LTCI
22		o	RSYW
23	o		PORI
24		o	FRM
25		o	LSHO
26		o	NESY
27	o		CSIN
28		o	LTCO
29	o		FWRE
30	o		CTLI
31		o	VTGO
32	o		SDIN

Pin No.	IN	OUT	SYMBOL
33	o		SWVI
34	o		SWMI
35		o	TVMO
36		o	TNDO
37		o	TRMO
38	o		TST2
39	o		SLCK
40		o	GND
41	o		TSAI
42	o		TOS3
43	o		TOS2
44		o	DO1
45		o	DO2
46		o	DO3
47	o		VDD(+5V)
48		o	AD1

Pin No.	IN	OUT	SYMBOL
49		o	AD3
50		o	BSGN
51	o		TOS1
52	o		TST3
53	o		TISI
54		o	GND
55	o		TIS3
56	o		DBCI
57	o		TIS1
58	o		LCKI
59		o	VTO
60		o	CFER
61	o		VDD(+5V)
62	o		SWSI
63	o		SWCI
64		o	TITO

BLOCK DIAGRAM


CKIN 20
CKO 19
SLCK 39
SYSTEM CLOCK DIVIDER
TO EACH BLOCK
LTCI 21
LTC READER (NORMAL PLAY ONLY)
RSYW 22
ERROR DETECTOR
SDIN 32
PROGRAM LOGIC UNIT
CFER 60
ARITHMETIC LOGIC UNIT
NESY 26
CSIN 27
VDO 5
HDO 14
FRM 24
SYNC SEP.
TIMING GENERATOR
LCKI 58
TIMING GENERATOR
LSHO 25
SCKO 4
SWVI 33
SWMI 34
SWSI 62
SWCI 63
SYSTEM CONTROL
CTLI 30
FWRE 29
DBCI 56
TSAI 41
TST2 38
TST3 52
TEST GENERATOR
51 TOS1
43 TOS2
42 TOS3
53 TISI
57 TIS1
55 TIS3
35 TVMO
36 TMDO
64 TITO
37 TRMO
ADDRESS OUTPUT CONTROL
15 AD0
48 AD1
16 AD2
49 AD3
17 AD4
8 ACS
DATA OUTPUT CONTROL
9 DO0
44 DO1
45 DO2
46 DO3
6 DCS
DATA INPUT CONTROL
10 DI0
11 DI1
12 DI2
13 DI3
18 XDB
7 WR
V REGISTER
VITC ENCODER
59 VTO
31 VTGO
Q REGISTER
LTC ENCODER
28 LTCO
3 LSBO
2 LSCO
1 LSDO
C REGISTER
50 BSGN
RESET EACH BLOCK
23 PORI
TO EACH BLOCK
47 VDD
61 VDD
40 GND
54 GND

FUNCTIONAL PIN DEFINITION

Pin No.	SYMBOL	DESCRIPTION
8	ACS	ADDRESS LINE CHIP SELECT INPUT
15	AD0	ADDRESS DATA OUTPUT
48	AD1	
16	AD2	
49	AD3	
17	AD4	
50	BSGN	BUSY GENERATOR OUTPUT
60	CFER	COLOR FRAME ERROR FLAG OUTPUT
20	CKIN	SYSTEM CLOCK INPUT
19	CKO	CLOCK OUTPUT
27	CSIN	COMPOSITE SYNC INPUT
30	CTLI	CTL(TIMER) SIGNAL INPUT (↓)
6	DCS	DATA LINE CHIP SELECT INPUT (NEGATIVE-LOGIC)
10	DI0	DATA BUS INPUT (NEGATIVE-LOGIC)
11	DI1	
12	DI2	
13	DI3	
9	DO0	DATA BUS OUTPUT (NEGATIVE-LOGIC)
44	DO1	
45	DO2	
46	DO3	
24	FRM	FRAME SIGNAL OUTPUT (NEGATIVE-LOGIC)
29	FWRE	CTL DIRECTION INPUT
14	HDO	HORIZONTAL SYNC DRIVE OUTPUT
58	LCKI	LTC CLOCK INPUT (SMPTE 9.6kHz/EBU 8kHz)
3	LSBO	LTC SYNCHRONOUS SIGNAL B OUTPUT
2	LSCO	LTC SYNCHRONOUS SIGNAL C OUTPUT
1	LSDO	LTC SYNCHRONOUS SIGNAL D OUTPUT
25	LSHO	LTC SYNCHRONOUS SIGNAL H OUTPUT
21	LTCI	LTC INPUT
28	LTCO	LTC SIGNAL OUTPUT
26	NESY	LOST-SYNC FLAG OUTPUT
23	PORI	POWER ON RESET INPUT
22	RSYW	READ SYNC WORD OUTPUT
4	SCKO	SWITCHES SIGNAL IN CLOCK OUTPUT
32	SDIN	SERIAL DATA INPUT
39	SLCK	SELECT CLOCK INPUT
63	SWCI	SWITCHES SIGNAL C INPUT
34	SWMI	SWITCHES SIGNAL M INPUT
62	SWSI	SWITCHES SIGNAL S INPUT
33	SWVI	SWITCHES SIGNAL V INPUT
5	VDO	VERTICAL SYNC DRIVE OUTPUT
31	VTGO	VITC GATE SIGNAL OUTPUT
59	VTO	VITC SIGNAL OUTPUT (NEGATIVE-LOGIC)
7	WR	WRITE SIGNAL OUTPUT (NEGATIVE-LOGIC)
18	XDB	EXTERNAL DATA BUS IN FLAG OUTPUT (NEGATIVE-LOGIC)
47	VDD	POWER LINE (+5V)
61	VDD	
40	GND	GND LINE
54	GND	
56	DBCI	TEST INPUT (TO BE CONNECTED WITH GND)
57	TIS1	
55	TIS3	
53	TISI	
51	TOS1	
43	TOS2	
42	TOS3	
41	TSAI	
38	TST2	
52	TST3	
64	TITO	TEST OUTPUT (TO BE LEFT OPEN)
36	TNDO	
37	TRMO	
35	TVMO	

#32 SDIN

LSDO	LSCO	LSBO	SDIN	FUNCTION
0	0	0	↓	INCREASE IN BIT 'FR or U1'
0	0	1		INCREASE IN BIT 'FT or U2'
0	1	0		INCREASE IN BIT 'SE or U3'
0	1	1		INCREASE IN BIT 'ST or U4'
1	0	0		INCREASE IN BIT 'MN or U5'
1	0	1		INCREASE IN BIT 'MT or U6'
1	1	0		INCREASE IN BIT 'HR or U7'
1	1	1		INCREASE IN BIT 'HT or U8'

NOTE; INFLUENCED BIT IS DECIDED BY FIRST 2 BITS OF SWCI.

#33 SWVI

LSDO	LSCO	LSBO	SWVI	FUNCTION
0	0	0	SW1A†	VITC POSITION SELECT A
0	0	1	SW1B†	
0	1	0	SW1C†	
0	1	1	SW1D†	
1	0	0	SW2A†	VITC POSITION SELECT B
1	0	1	SW2B†	
1	1	0	SW2C†	
1	1	1	SW2D†	

†; VITC POSITION SELECT

SW1D SW2D	SW1C SW2C	SW1B SW2B	SW1A SW2A	INSERTION LINE	
				NTSC	PAL, SECAM
0	0	0	0	LINE 25	LINE 22,335
0	0	0	1	24	21,334
0	0	1	0	23	20,333
0	0	1	1	22	19,332
0	1	0	0	21	18,331
0	1	0	1	20	17,330
0	1	1	0	19	16,329
0	1	1	1	18	15,328
1	0	0	0	17	14,327
1	0	0	1	16	13,326
1	0	1	0	15	12,325
1	0	1	1	14	11,324
1	1	0	0	13	10,323
1	1	0	1	12	9,322
1	1	1	0	11	8,321
1	1	1	1	10	7,320

#62 SWSI

LSDO	LSCO	LSBO	SWSI	FUNCTION
0	0	0	FBS1*	VITC FIELD MARK/ LTC PHASE CORRECTION POSITION SELECT
0	0	1	FBS2*	
0	1	0	FBS3*	
0	1	1	0	PHASE CORRECTION ON
0	1	1	1	PHASE CORRECTION OFF
1	0	0	S1**	SIGNAL FORMAT SELECT
1	0	1	S2**	
1	1	0	S4**	
1	1	1	x	-

x; DON'T CARE.

*; VITC FIELD MARK/LTC PHASE CORRECTION POSITION SELECT

FBS3	FBS2	FBS1	FIELD MARK POSITION	LTC BIT No.
0	0	0	AS1	10
0	0	1	AS2	11
0	1	0	AS3	27
0	1	1	AS4	43
1	0	0	AS5	58
1	0	1	AS6	59
1	1	0	-	-
1	1	1	-	-

NOTE; LTC PHASE CORRECTION BIT OF CX7907 IS FIXED ON BIT-63.

**; SIGNAL FORMAT SELECT

S4	S2	S1	FORMAT	FRAME
0	0	0	FILM	24
0	0	1	NOT ALLOWED	-
0	1	x		
1	0	0	PAL, SECAM	25
1	0	1	NOT ALLOWED	-
1	1	0	NTSC NDF	30
1	1	1	NTSC DF	30

DF; DROP FRAME
NDF; NON DROP FRAME
x; DON'T CARE.

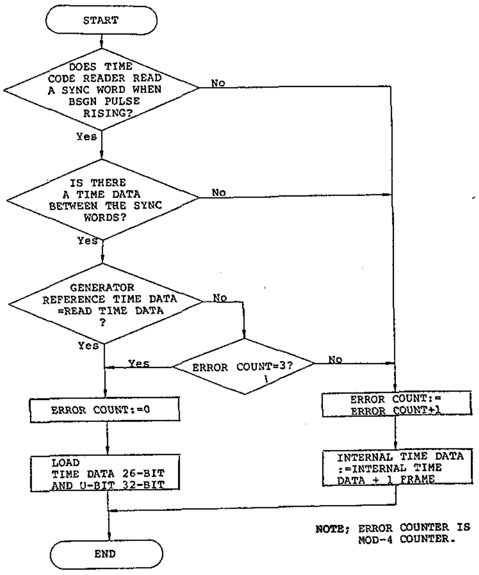
0; LOW LEVEL
1; HIGH LEVEL

#63 SWCI

LSDO	LSCO	LSBO	SWCI	FUNCTION	
0	0	0	0	U-BIT	IN/OUT DATA SELECT*1
0	0	0	1	TIME	
0	0	1	0	CTL	
0	0	1	1	TIME/U-BIT	
0	1	0	x	-	
0	1	1	0	DATA RESET ON*2	
0	1	1	1	DATA RESET OFF	
1	0	0	0	TIME DATA HOLD	
1	0	0	1	TIME DATA RUN	
1	0	1	↓	EXTERNAL DATA LOAD*2	
1	1	0	0	EXTRAPOLATION ON	
1	1	0	1	EXTRAPOLATION OFF	
1	1	1	x	-	

x; DON'T CARE.
*1; REFER TO TIMING CHART (DATA OUT).
*2; INFLUENCED DATA IS DECIDED BY FIRST 2 BITS OF SWCI.

ERROR BYPASS ALGORITHM


START
DOES TIME CODE READER READ A SYNC WORD WHEN BSGN PULSE RISING?
No
Yes
IS THERE A TIME DATA BETWEEN THE SYNC WORDS?
No
Yes
GENERATOR REFERENCE TIME DATA =READ TIME DATA ?
No
Yes
Yes
ERROR COUNT=3?
No
ERROR COUNT:=0
ERROR COUNT:= ERROR COUNT+1
LOAD TIME DATA 26-BIT AND U-BIT 32-BIT
INTERNAL TIME DATA :=INTERNAL TIME DATA + 1 FRAME
END

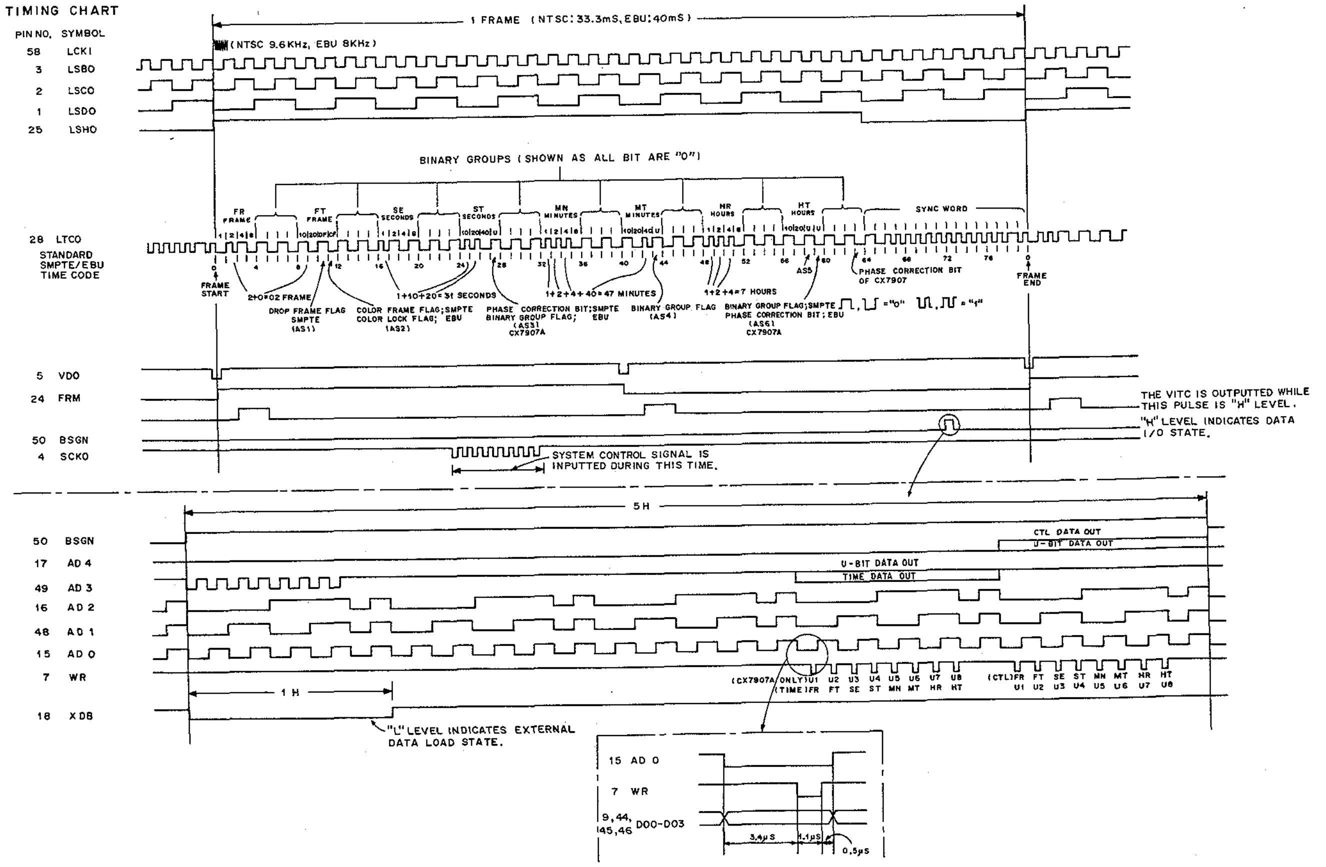
NOTE; ERROR COUNTER IS MOD-4 COUNTER.

#34 SWMI

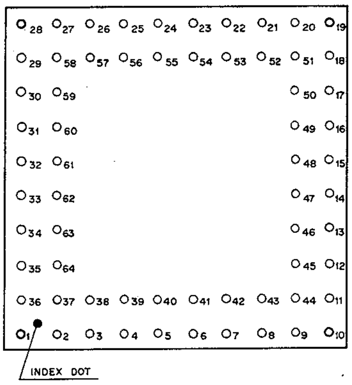
LSDO	LSCO	LSBO	SWMI	FUNCTION
0	0	0	x	INSERT SWMI DATA INTO BIT 'AS1' (NEGATIVE-LOGIC)
0	0	1	x	INSERT SWMI DATA INTO BIT 'AS2' (NEGATIVE-LOGIC)
0	1	0	x	INSERT SWMI DATA INTO BIT 'AS3' (NEGATIVE-LOGIC)
0	1	1	x	INSERT SWMI DATA INTO BIT 'AS4' (NEGATIVE-LOGIC)
1	0	0	x	INSERT SWMI DATA INTO BIT 'AS5' (NEGATIVE-LOGIC)
1	0	1	x	INSERT SWMI DATA INTO BIT 'AS6' (NEGATIVE-LOGIC)
1	1	0	↑	COLOR FRAME LOCK IN FIELD 1
1	1	1	0	COLOR FRAME OFF
1	1	1	1	COLOR FRAME ON

X; DON'T CARE.

TIMING CHART

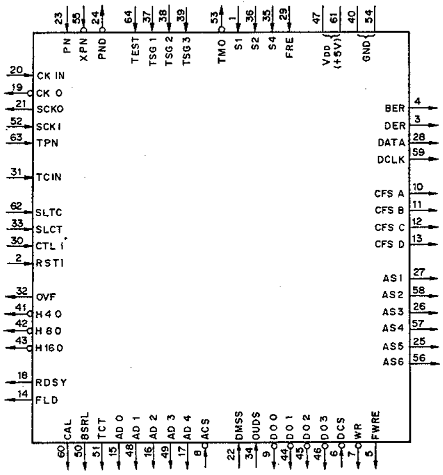

1 FRAME (NTSC: 33.3mS, EBU: 40mS)
PIN NO. SYMBOL
58 LCKI
3 LSBO
2 LSCO
1 LSDO
25 LSHO
(NTSC 9.6KHz, EBU 8KHz)
BINARY GROUPS (SHOWN AS ALL BIT ARE "0")
FR FRAME
FT FRAME
SE SECONDS
ST SECONDS
MN MINUTES
MT MINUTES
HR HOURS
HT HOURS
SYNC WORD
28 LTCO
STANDARD SMPTE/EBU TIME CODE
FRAME START
2+0=02 FRAME
DROP FRAME FLAG SMPTE (AS1)
COLOR FRAME FLAG; SMPTE COLOR LOCK FLAG; EBU (AS2)
1+10+20=31 SECONDS
PHASE CORRECTION BIT; SMPTE BINARY GROUP FLAG; EBU (AS3) CX7907A
1+2+4+40=47 MINUTES
BINARY GROUP FLAG (AS4)
1+2+4=7 HOURS
BINARY GROUP FLAG; SMPTE PHASE CORRECTION BIT; EBU (AS6) CX7907A
AS5
PHASE CORRECTION BIT OF CX7907
="0"
="1"
FRAME END
5 VDO
24 FRM
50 BSGN
4 SCKO
SYSTEM CONTROL SIGNAL IS INPUTTED DURING THIS TIME.
THE VITC IS OUTPUTTED WHILE THIS PULSE IS "H" LEVEL.
"H" LEVEL INDICATES DATA I/O STATE.
5 H
50 BSGN
17 AD 4
49 AD 3
16 AD 2
48 AD 1
15 AD 0
7 WR
18 XDB
CTL DATA OUT
U-BIT DATA OUT
U-BIT DATA OUT
TIME DATA OUT
(CX7907A ONLY)U1 U2 U3 U4 U5 U6 U7 U8
(TIME)FR FT SE ST MN MT HR HT
(CTL)FR FT SE ST MN MT HR HT
U1 U2 U3 U4 U5 U6 U7 U8
1 H
"L" LEVEL INDICATES EXTERNAL DATA LOAD STATE.
15 AD 0
7 WR
9,44, 45,46 DO0-DO3
3.4μS
1.1μS
0.5μS

CX7912A (SONY)
C-MOS TIME CODE READER
— TOP VIEW —


28 27 26 25 24 23 22 21 20 19
29 58 57 56 55 54 53 52 51 18
30 59 50 17
31 60 49 16
32 61 48 15
33 62 47 14
34 63 46 13
35 64 45 12
36 37 38 39 40 41 42 43 44 11
1 2 3 4 5 6 7 8 9 10
INDEX DOT

PIN ASSIGNMENT

PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1	○		S1	17		○	AD 4	33	○		SLCT	49		○	AD 3
2	○		RSTI	18		○	RDSY	34	○		OUDS	50		○	BSRL
3		○	DER	19		○	CK 0	35	○		S4	51		○	TCT
4		○	BER	20	○		CK IN	36	○		S2	52	○		SCKI
5		○	FWRE	21		○	SCKO	37	○		TSG 1	53		○	TMO
6	○		DCS	22	○		DMSS	38	○		TSG 2	54		○	GND
7		○	WR	23	○		PN	39	○		TSG 3	55	○		XPN
8	○		ACS	24		○	PND	40		○	GND	56		○	AS6
9		○	DO 0	25		○	AS5	41		○	H 4 0	57		○	AS4
10		○	CFS A	26		○	AS3	42		○	H 8 0	58		○	AS2
11		○	CFS B	27		○	AS 1	43		○	H 16 0	59		○	DCLK
12		○	CFS C	28		○	DATA	44		○	DO 1	60		○	CAL
13		○	CFS D	29	○		FRE	45		○	DO 2	61	○		VDD(+5V)
14		○	FLD	30	○		CTL I	46		○	DO3	62	○		SLTC
15		○	AD 0	31	○		TC IN	47	○		VDD(+5V)	63	○		TPN
16		○	AD 2	32		○	OVF	48		○	AD 1	64	○		TEST


23 PN
55 XPN
24 PND
64 TEST
37 TSG 1
38 TSG 2
39 TSG 3
53 TMO
1 S1
36 S2
35 S4
29 FRE
47 61 VDD (+5V)
40 54 GND
20 CK IN
19 CK O
21 SCKO
52 SCKI
63 TPN
31 TCIN
62 SLTC
33 SLCT
30 CTL I
2 RSTI
32 OVF
41 H40
42 H80
43 H160
18 RDSY
14 FLD
4 BER
3 DER
28 DATA
59 DCLK
10 CFS A
11 CFS B
12 CFS C
13 CFS D
27 AS1
58 AS2
26 AS3
57 AS4
25 AS5
56 AS6
60 CAL
50 BSRL
51 TCT
15 AD 0
48 AD 1
16 AD 2
49 AD 3
17 AD 4
8 ACS
22 DMSS
34 OUDS
9 DO 0
44 DO 1
45 DO 2
46 DO 3
6 DCS
7 WR
5 FWRE

MODE SELECT

SLCT	SLTC	MODE
0	0	AUTO
0	1	TIME CODE
1	0	CTL
1	1	AUTO

CTL COUNT

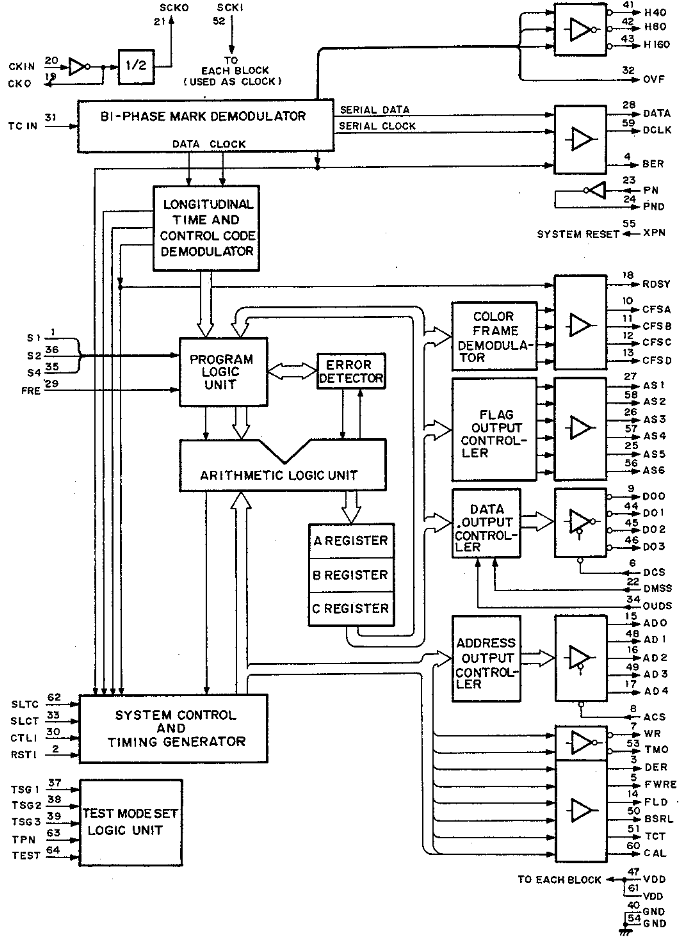
FRE	RSTI	COUNT
0	X	DOWN COUNT
1	X	UP COUNT
X	↓	RESET

SIGNAL FORMAT SELECT

S4	S2	S1	FORMAT	FRAME
0	0	0	FILM	24
0	0	1	NOT ALLOWED	—
0	1	0		
0	1	1		
1	0	0	PAL, SECAM	25
1	0	1	NOT ALLOWED	—
1	1	0	NTSC (NON DROP FRAME)	30
1	1	1	NTSC (DROP FRAME)	30

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

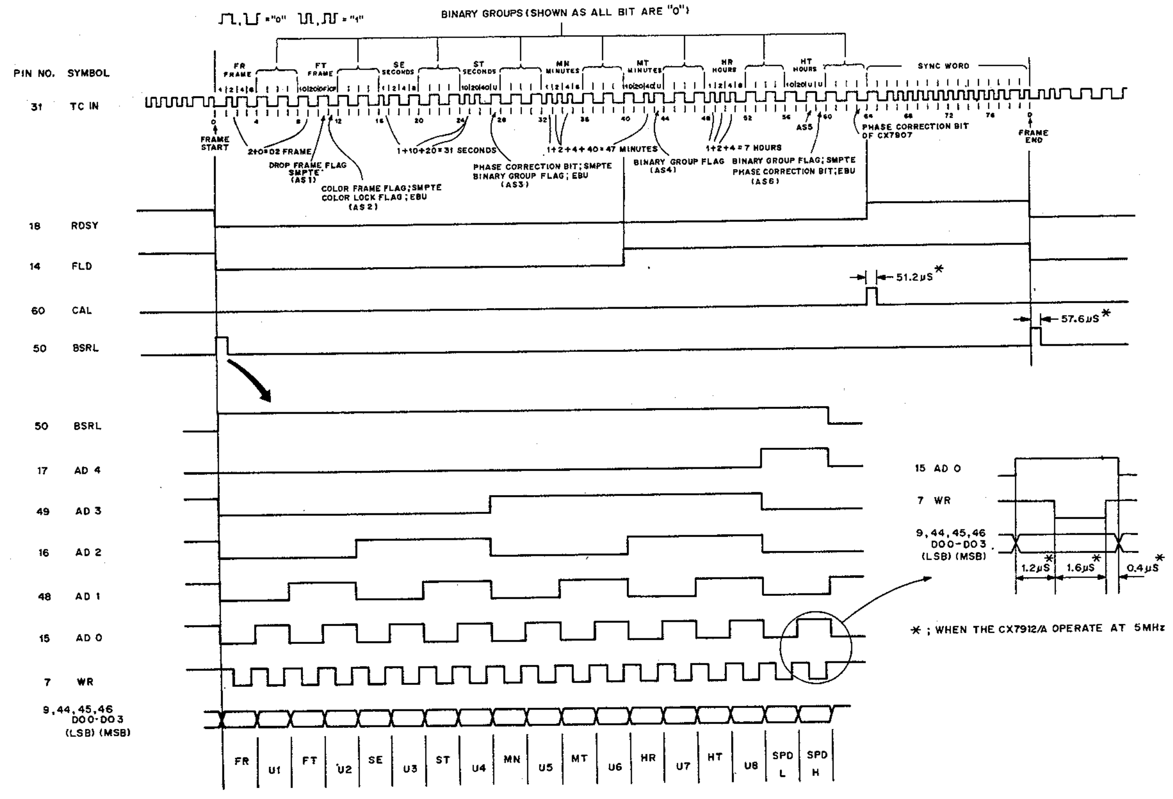
BLOCK DIAGRAM


SCKO
21
SCKI
52
TO
EACH BLOCK
(USED AS CLOCK)
CKIN 20
CKO 19
1/2
TC IN 31
BI-PHASE MARK DEMODULATOR
SERIAL DATA
SERIAL CLOCK
DATA CLOCK
LONGITUDINAL TIME AND CONTROL CODE DEMODULATOR
S1 1
S2 36
S4 35
FRE 29
PROGRAM LOGIC UNIT
ERROR DETECTOR
ARITHMETIC LOGIC UNIT
A REGISTER
B REGISTER
C REGISTER
SLTC 62
SLCT 33
CTLI 30
RSTI 2
SYSTEM CONTROL AND TIMING GENERATOR
TSG1 37
TSG2 38
TSG3 39
TPN 63
TEST 64
TEST MODE SET LOGIC UNIT
COLOR FRAME DEMODULATOR
FLAG OUTPUT CONTROLLER
DATA OUTPUT CONTROLLER
ADDRESS OUTPUT CONTROLLER
41 H40
42 H80
43 H160
32 OVF
28 DATA
59 DCLK
4 BER
23 PN
24 PND
SYSTEM RESET 55 XPN
18 RDSY
10 CFSA
11 CFSB
12 CFSC
13 CFSD
27 AS1
58 AS2
26 AS3
57 AS4
25 AS5
56 AS6
9 DO0
44 DO1
45 DO2
46 DO3
6 DCS
22 DMSS
34 OUDS
15 AD0
48 AD1
16 AD2
49 AD3
17 AD4
8 ACS
7 WR
53 TMO
3 DER
5 FWRE
14 FLD
50 BSRL
51 TCT
60 CAL
TO EACH BLOCK
47 VDD
61 VDD
40 GND
54 GND

FUNCTIONAL PIN DEFINITION

Pin No.	SYMBOL	DESCRIPTION
8	ACS	ADDRESS LINE OUTPUT ENABLE (NEGATIVE-LOGIC)
15	AD0	ADDRESS DATA OUTPUT
48	AD1	
16	AD2	
49	AD3	
17	AD4	
27	AS1	PARALLEL DATA OUTPUT
58	AS2	
26	AS3	
57	AS4	
25	AS5	
56	AS6	
4	BER	BI-PHASE MARK ERROR (BIT ERROR) OUTPUT
50	BSRL	DATA OUT FLAG OUTPUT
60	CAL	CALCULATE OUT FLAG OUTPUT
10	CFSA	DEMODULATED COLOR FRAME OUTPUT
11	CFSB	
12	CFSC	
13	CFSD	
20	CKIN	CLOCK INPUT
19	CKO	CLOCK OUTPUT (NEGATIVE-LOGIC)
30	CTLI	CTL SIGNAL INPUT (⎾⏌)
28	DATA	DEMODULATED SERIAL DATA OUTPUT
59	DCLK	DEMODULATED CLOCK OUTPUT
6	DCS	DATA LINE OUTPUT ENABLE (NEGATIVE-LOGIC)
3	DER	DEMODULATE DATA ERROR OUTPUT
22	DMSS	ASSIGNED DATA SELECT
9	DO0	DATA OUTPUT (NEGATIVE-LOGIC)
44	DO1	
45	DO2	
46	DO3	
14	FLD	FIELD DATA OUTPUT
29	FRE	CTL DIRECTION SIGNAL INPUT
5	FWRE	DEMODULATE DIRECTION SIGNAL OUTPUT
41	H40	SPEED RANGE FLAG 4 OUTPUT (NEGATIVE-LOGIC)
42	H80	SPEED RANGE FLAG 8 OUTPUT (NEGATIVE-LOGIC)
43	H160	SPEED RANGE FLAG 16 OUTPUT (NEGATIVE-LOGIC)
34	OUDS	ERROR BYPASS ON/OFF SELECT
32	OVF	OVERFLOW FLAG OUTPUT
23	PN	POWER ON SIGNAL INPUT
24	PND	POWER ON SIGNAL OUPUT (NEGATIVE-LOGIC)
18	RDSY	READ SYNC WORD DATA OUTPUT
2	RSTI	CTL TIMER RESET INPUT (⎾⏌)
1	S1	SIGNAL FORMAT SELECT S1
36	S2	SIGNAL FORMAT SELECT S2
35	S4	SIGNAL FORMAT SELECT S4
52	SCKI	SYSTEM CLOCK INPUT
21	SCKO	SYSTEM CLOCK OUTPUT
33	SLCT	SELECT CTL INPUT
62	SLTC	SELECT LTC INPUT
55	XPN	SYSTEM RESET SIGNAL INPUT (NEGATIVE-LOGIC)
31	TCIN	LONGITUDINAL TIME AND CONTROL CODE INPUT
51	TCT	INPUT SELECT FLAG OUTPUT
53	TMO	TIME OVER SIGNAL OUTPUT (NEGATIVE-LOGIC)
7	WR	WRITE SIGNAL OUTPUT (NEGATIVE-LOGIC)
47	VDD	POWER LINE (+5V)
61	VDD	
40	GND	GND LINE
54	GND	
64	TEST	TEST MODE SET INPUT (TO BE CONNECTED WITH GND)
63	TPN	
37	TSG1	
38	TSG2	
39	TSG3	

TIMING CHART

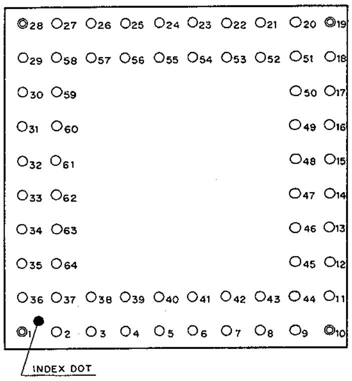

⎍⎍,⎍⎍ = "0" ⎍⎍,⎍⎍ = "1"
BINARY GROUPS (SHOWN AS ALL BIT ARE "0")
PIN NO.
SYMBOL
31 TC IN
FR FRAME
FT FRAME
SE SECONDS
ST SECONDS
MN MINUTES
MT MINUTES
HR HOURS
HT HOURS
SYNC WORD
FRAME START
2+0=02 FRAME
DROP FRAME FLAG SMPTE (AS1)
COLOR FRAME FLAG; SMPTE
COLOR LOCK FLAG; EBU
(AS2)
1+10+20=31 SECONDS
PHASE CORRECTION BIT; SMPTE
BINARY GROUP FLAG; EBU
(AS3)
1+2+4+40=47 MINUTES
BINARY GROUP FLAG (AS4)
1+2+4=7 HOURS
AS5
BINARY GROUP FLAG; SMPTE
PHASE CORRECTION BIT; EBU
(AS6)
PHASE CORRECTION BIT OF CX7907
FRAME END
18 RDSY
14 FLD
60 CAL
50 BSRL
51.2μS*
57.6μS*
50 BSRL
17 AD 4
49 AD 3
16 AD 2
48 AD 1
15 AD 0
7 WR
9, 44, 45, 46 DO0-DO3 (LSB) (MSB)
FR
U1
FT
U2
SE
U3
ST
U4
MN
U5
MT
U6
HR
U7
HT
U8
SPD L
SPD H
15 AD 0
7 WR
9, 44, 45, 46 DO0-DO3 (LSB) (MSB)
1.2μS*
1.6μS*
0.4μS*

* ; WHEN THE CX7912/A OPERATE AT 5MHz

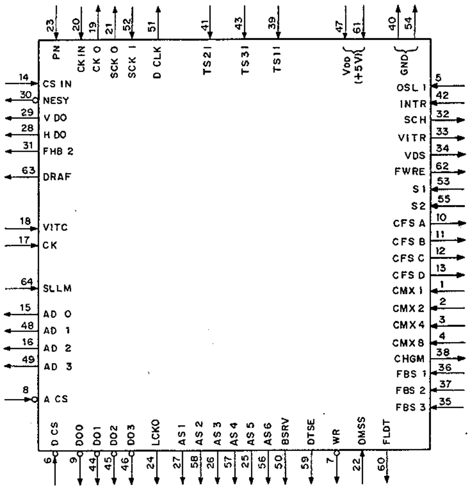
CX7913A (SONY)

C-MOS VITC (VERTICAL INTERVAL TIME CODE) READER

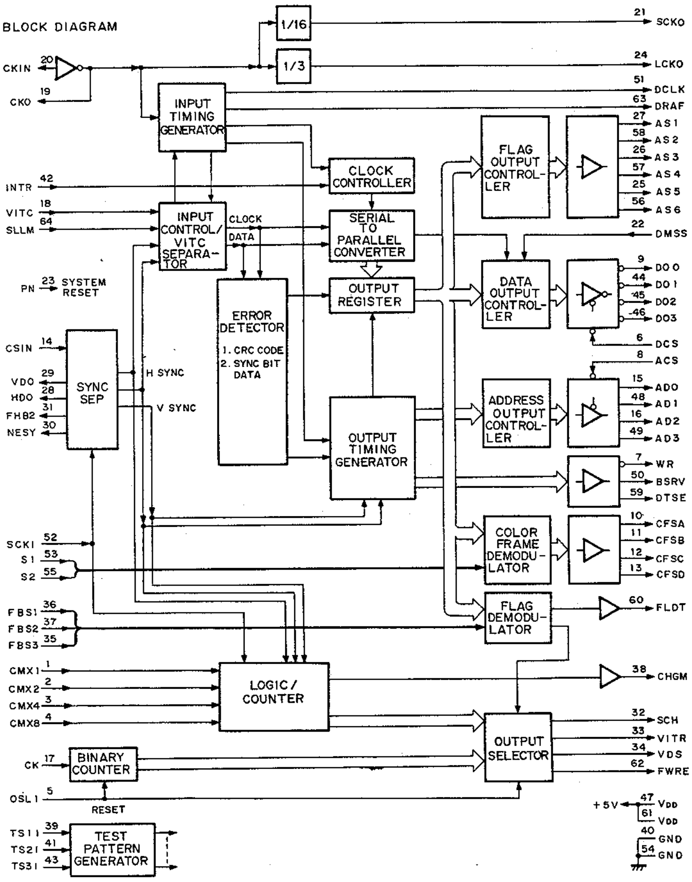
— TOP VIEW —


28 27 26 25 24 23 22 21 20 19
29 58 57 56 55 54 53 52 51 18
30 59 50 17
31 60 49 16
32 61 48 15
33 62 47 14
34 63 46 13
35 64 45 12
36 37 38 39 40 41 42 43 44 11
1 2 3 4 5 6 7 8 9 10
INDEX DOT

PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1	○		CMX 1	17	○		CK	33		○	VITR	49		○	AD 3
2	○		CMX 2	18	○		VITC	34		○	VDS	50		○	BSRV
3	○		CMX 4	19		○	CK O	35	○		FBS 3	51		○	D CLK
4	○		CMX 8	20	○		CK IN	36	○		FBS 1	52	○		SCK I
5	○		OSL 1	21		○	SCK O	37	○		FBS 2	53	○		S1
6	○		D CS	22	○		DMSS	38		○	CHGM	54		○	GND
7		○	WR	23	○		PN	39	○		TS1I	55	○		S2
8	○		A CS	24		○	LCKO	40		○	GND	56		○	AS6
9		○	DO 0	25		○	AS5	41	○		TS2I	57		○	AS4
10		○	CFS A	26		○	AS3	42	○		INTR	58		○	AS2
11		○	CFS B	27		○	AS1	43	○		TS3I	59		○	DTSE
12		○	CFS C	28		○	HDO	44		○	DO 1	60		○	FLDT
13		○	CFS D	29		○	VDO	45		○	DO 2	61	○		VDD(+5V)
14	○		CS IN	30		○	NESY	46		○	DO 3	62		○	FWRE
15		○	AD O	31		○	FHB 2	47	○		VDD(+5V)	63		○	DRAF
16		○	AD 2	32		○	SCH	48		○	AD 1	64	○		SLLM


23 PN
20 CK IN
19 CK O
21 SCK O
52 SCK I
51 D CLK
41 TS2I
43 TS3I
39 TS1I
47 61 VDD (+5V)
40 54 GND
14 CS IN
30 NESY
29 V DO
28 H DO
31 FHB 2
63 DRAF
18 VITC
17 CK
64 SLLM
15 AD 0
48 AD 1
16 AD 2
49 AD 3
8 A CS
5 OSL 1
42 INTR
32 SCH
33 VITR
34 VDS
62 FWRE
53 S1
55 S2
10 CFS A
11 CFS B
12 CFS C
13 CFS D
1 CMX 1
2 CMX 2
3 CMX 4
4 CMX 8
38 CHGM
36 FBS 1
37 FBS 2
35 FBS 3
6 D CS
9 DO0
44 DO1
45 DO2
46 DO3
24 LCKO
27 AS 1
58 AS 2
26 AS 3
57 AS 4
25 AS 5
56 AS 6
50 BSRV
59 DTSE
7 WR
22 DMSS
60 FLDT

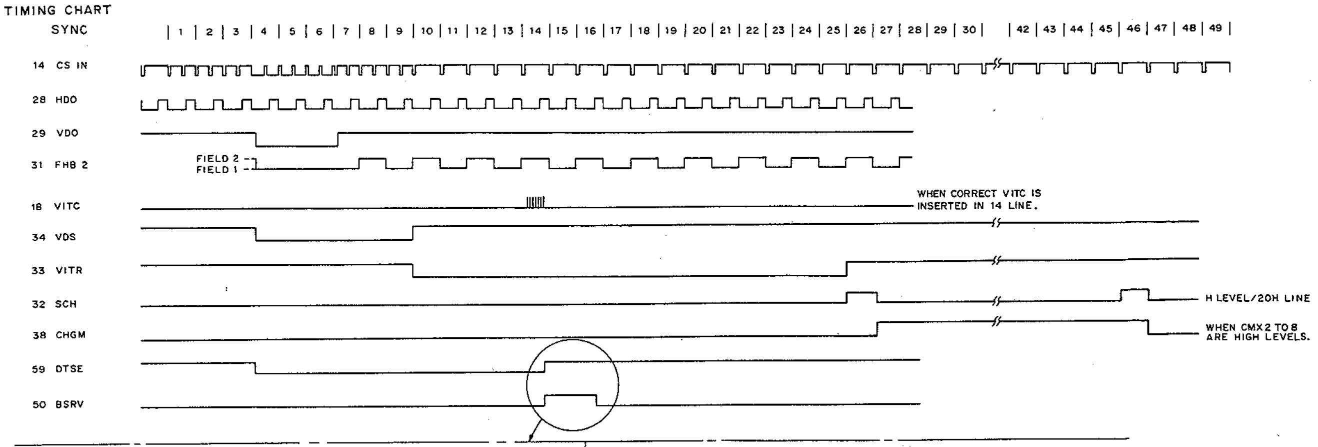
BLOCK DIAGRAM


CKIN 20
CKO 19
1/16
1/3
21 SCKO
24 LCKO
51 DCLK
63 DRAF
INPUT TIMING GENERATOR
CLOCK CONTROLLER
FLAG OUTPUT CONTROLLER
27 AS1
58 AS2
26 AS3
57 AS4
25 AS5
56 AS6
22 DMSS
INTR 42
VITC 18
SLLM 64
INPUT CONTROL/ VITC SEPARATOR
CLOCK
DATA
SERIAL TO PARALLEL CONVERTER
PN 23 SYSTEM RESET
ERROR DETECTOR
1. CRC CODE
2. SYNC BIT DATA
OUTPUT REGISTER
DATA OUTPUT CONTROLLER
9 DO0
44 DO1
45 DO2
46 DO3
6 DCS
8 ACS
CSIN 14
VDO 29
HDO 28
FHB2 31
NESY 30
SYNC SEP
H SYNC
V SYNC
ADDRESS OUTPUT CONTROLLER
15 AD0
48 AD1
16 AD2
49 AD3
OUTPUT TIMING GENERATOR
7 WR
50 BSRV
59 DTSE
SCKI 52
S1 53
S2 55
COLOR FRAME DEMODULATOR
10 CFSA
11 CFSB
12 CFSC
13 CFSD
FBS1 36
FBS2 37
FBS3 35
FLAG DEMODULATOR
60 FLDT
CMX1 1
CMX2 2
CMX4 3
CMX8 4
LOGIC/ COUNTER
38 CHGM
OUTPUT SELECTOR
32 SCH
33 VITR
34 VDS
62 FWRE
CK 17
BINARY COUNTER
OSL1 5
RESET
+5V
47 VDD
61 VDD
40 GND
54 GND
TS1I 39
TS2I 41
TS3I 43
TEST PATTERN GENERATOR

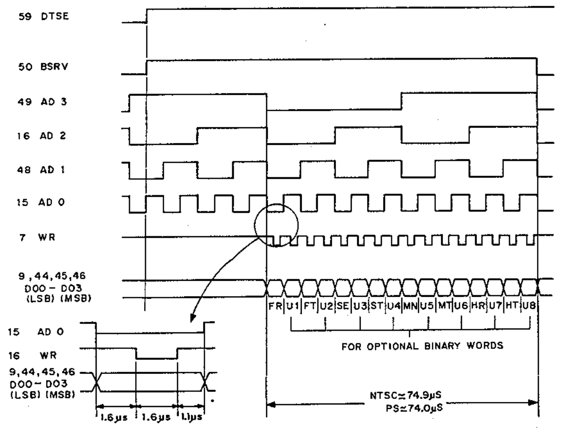
FUNCTIONAL PIN DEFINITION

Pin No.	SYMBOL	DESCRIPTION
8	ACS	ADDRESS LINE ENABLE INPUT
15	AD0	ADDRESS DATA OUTPUT
48	AD1	
16	AD2	
49	AD3	
27	AS1	PARALLEL DATA OUTPUT
58	AS2	
26	AS3	
57	AS4	
25	AS5	
56	AS6	
50	BSRV	DATA OUT FLAG OUTPUT
10	CFSA	DEMODULATED COLOR FRAME OUTPUT
11	CFSB	
12	CFSC	
13	CFSD	
38	CHGM	CHARACTER V POSITION GATE SIGNAL OUTPUT
17	CK	INTERNAL COUNTER CLOCK INPUT
20	CKIN	CLOCK INPUT
19	CKO	CLOCK OUTPUT (NEGATIVE-LOGIC)
1	CMX1	CHARACTER V POSITION SELECT INPUT
2	CMX2	
3	CMX4	
4	CMX8	
14	CSIN	COMPOSITE SYNC INPUT
51	DCLK	VITC READ CLOCK OUTPUT
6	DCS	DATA LINE ENABLE INPUT
22	DMSS	ASSIGNED BIT DATA SELECT INPUT
9	DO0	DATA OUT (NEGATIVE-LOGIC)
44	DO1	
45	DO2	
46	DO3	
63	DRAF	VITC SYNCHRONIZE SIGNAL D OUTPUT
59	DTSE	VITC DATA SEARCH FLAG OUTPUT
36	FBS1	FIELD MARK POSITION SELECT 1 INPUT
37	FBS2	FIELD MARK POSITION SELECT 2 INPUT
35	FBS3	FIELD MARK POSITION SELECT 3 INPUT
31	FHB2	FH/2 SIGNAL OUTPUT
60	FLDT	FIELD DATA OUTPUT
62	FWRE	TAPE DIRECTION SIGNAL OUTPUT
28	HDO	HORIZONTAL SYNC DRIVE OUTPUT
42	INTR	INTERRUPT REQUEST INPUT
24	LCKO	LTC CLOCK OUTPUT
30	NESY	LOST-SYNC FLAG OUTPUT
5	OSL1	OUTPUT SIGNAL SELECT 1 INPUT
23	PN	POWER ON RESET INPUT
53	S1	SIGNAL FORMAT SELECT S1 INPUT
55	S2	SIGNAL FORMAT SELECT S2 INPUT
32	SCH	OUTPUT SIGNAL SCH
52	SCKI	SYSTEM CLOCK INPUT
21	SCKO	SYSTEM CLOCK OUTPUT
64	SLLM	READ SIZE SELECT INPUT
29	VDO	VERTICAL SYNC DRIVE OUTPUT
34	VDS	OUTPUT SIGNAL VDS
18	VITC	VITC SIGNAL INPUT
33	VITR	OUTPUT SIGNAL VITR
7	WR	WRITE SIGNAL OUTPUT (NEGATIVE-LOGIC)
47	VDD	POWER LINE (+5V)
61	VDD	
40	GND	GND LINE
54	GND	
39	TS1I	TEST INPUT
41	TS2I	
43	TS3I	

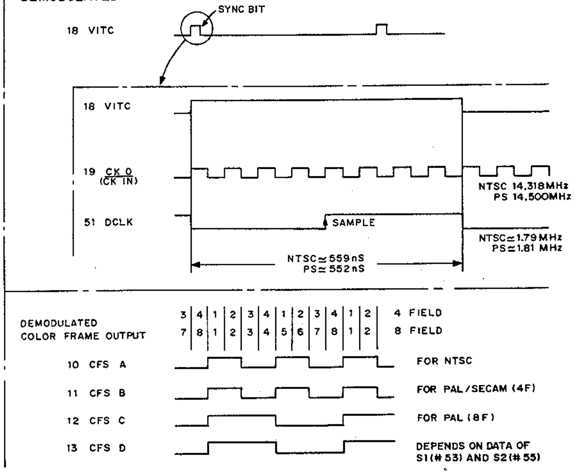
TIMING CHART


SYNC
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 42 43 44 45 46 47 48 49
14 CS IN
28 HDO
29 VDO
31 FHB 2
FIELD 2
FIELD 1
18 VITC
WHEN CORRECT VITC IS INSERTED IN 14 LINE.
34 VDS
33 VITR
32 SCH
H LEVEL/20H LINE
38 CHGM
WHEN CMX2 TO 8 ARE HIGH LEVELS.
59 DTSE
50 BSRV

DATA OUTPUT


59 DTSE
50 BSRV
49 AD 3
16 AD 2
48 AD 1
15 AD 0
7 WR
9,44,45,46
DO0 – DO3
(LSB) (MSB)
FR U1 FT U2 SE U3 ST U4 MN U5 MT U6 HR U7 HT U8
FOR OPTIONAL BINARY WORDS
15 AD 0
16 WR
9,44,45,46
DO0 – DO3
(LSB) (MSB)
1.6μs
1.6μs
1.1μs
NTSC≃74.9μS
PS≃74.0μS

DEMODULATED


SYNC BIT
18 VITC
18 VITC
19 CK O (CK IN)
NTSC 14.318MHz
PS 14.500MHz
51 DCLK
SAMPLE
NTSC≃1.79MHz
PS≃1.81 MHz
NTSC≃559nS
PS≃552nS
DEMODULATED COLOR FRAME OUTPUT
3 4 1 2 3 4 1 2 3 4 1 2
4 FIELD
7 8 1 2 3 4 5 6 7 8 1 2
8 FIELD
10 CFS A
FOR NTSC
11 CFS B
FOR PAL/SECAM (4F)
12 CFS C
FOR PAL (8F)
13 CFS D
DEPENDS ON DATA OF S1(#53) AND S2(#55)

#1,2,3,4 CMX1 TO 8;CHARACTER V POSITION SELECT

CMX8	CMX4	CMX2	CMX1	INSERTION LINE (#38 CHGM IS H LEVEL)	
				NTSC	PAL,SECAM
0	0	0	0	---	---
0	0	0	1	---	284-303 596-615
0	0	1	0	---	264-283 576-595
0	0	1	1	---	244-263 556-575
0	1	0	0	227-246	224-243 536-555
0	1	0	1	207-226	204-223 516-535
0	1	1	0	187-206	184-203 496-515
0	1	1	1	167-186	164-183 476-495
1	0	0	0	147-166	144-163 456-475
1	0	0	1	127-146	124-143 436-455
1	0	1	0	107-126	104-123 416-435
1	0	1	1	87-106	84-103 396-415
1	1	0	0	67- 86	64- 83 376-395
1	1	0	1	47- 66	44- 63 356-375
1	1	1	0	27- 46	24- 43 336-355
1	1	1	1	---	---

#36,37,35 FBS1 TO FBS3;FIELD DATA SELECT

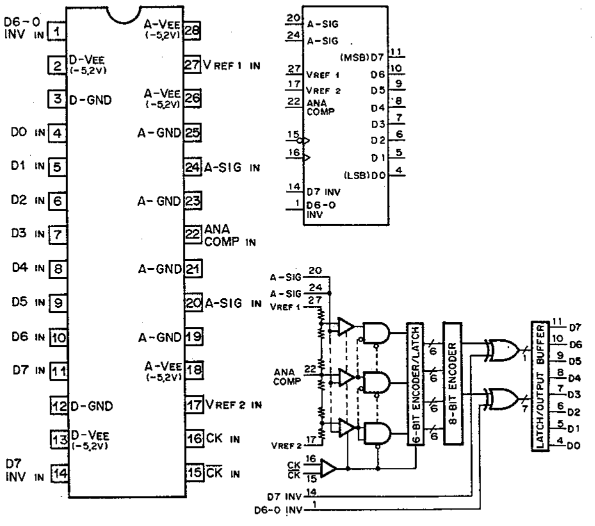
FBS3	FBS2	FBS1	#60 FLDT OUTPUT
0	0	0	AS1 (VITC BIT No.14)
0	0	1	AS2 (VITC BIT No.15)
0	1	0	AS3 (VITC BIT No.35)
0	1	1	AS4 (VITC BIT No.55)
1	0	0	AS5 (VITC BIT No.74)
1	0	1	AS6 (VITC BIT No.75)
1	1	0	------
1	1	1	------

#53,55 S1,S2;SIGNAL FORMAT SELECT

S2	S1	#13 CFSD FORMAT
0	0	UNSPECIFIED
0	1	
1	0	NTSC NON DROP FRAME
1	1	NTSC DROP FRAME

0;LOW LEVEL
1;HIGH LEVEL

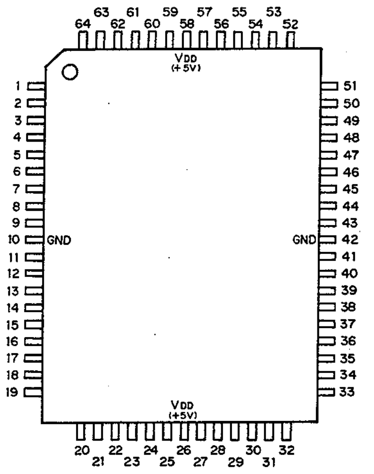
CXA1016P (SONY)
8-BIT FLASH TYPE A/D CONVERTER (30MS/s)
— SIDE VIEW —


D6-0 INV IN 1
2 D-VEE (-5.2V)
3 D-GND
D0 IN 4
D1 IN 5
D2 IN 6
D3 IN 7
D4 IN 8
D5 IN 9
D6 IN 10
D7 IN 11
12 D-GND
13 D-VEE (-5.2V)
D7 INV IN 14
28 A-VEE (-5.2V)
27 VREF 1 IN
26 A-VEE (-5.2V)
25 A-GND
24 A-SIG IN
23 A-GND
22 ANA COMP IN
21 A-GND
20 A-SIG IN
19 A-GND
18 A-VEE (-5.2V)
17 VREF 2 IN
16 CK IN
15 CK IN
20 A-SIG
24 A-SIG
27 VREF 1
17 VREF 2
22 ANA COMP
15
16
14 D7 INV
1 D6-0 INV
(MSB) D7 11
D6 10
D5 9
D4 8
D3 7
D2 6
D1 5
(LSB) D0 4
A-SIG 20
A-SIG 24
VREF 1 27
ANA COMP 22
VREF 2 17
CK 16
CK 15
D7 INV 14
D6-0 INV 1
6-BIT ENCODER/LATCH
6
8-BIT ENCODER
1
7
LATCH/OUTPUT BUFFER
11 D7
10 D6
9 D5
8 D4
7 D3
6 D2
5 D1
4 D0

CXD1020Q (SONY)

C-MOS SERIAL-TO/FROM-PARALLEL CONVERTER

— TOP VIEW —


VDD (+5V)
GND
GND
VDD (+5V)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
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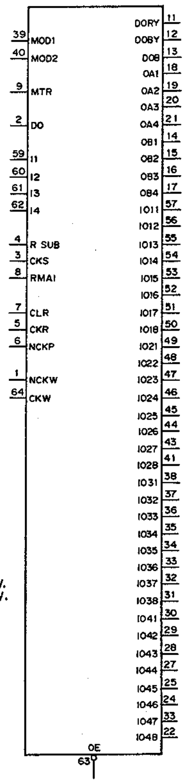
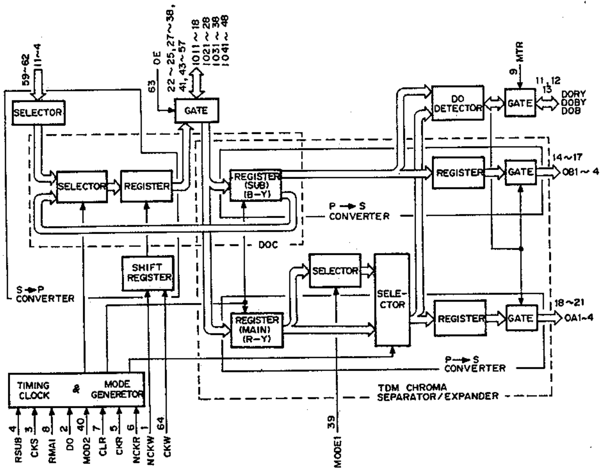

39 MOD1
40 MOD2
9 MTR
2 DO
59 I1
60 I2
61 I3
62 I4
4 R SUB
3 CKS
8 RMAI
7 CLR
5 CKR
6 NCKP
1 NCKW
64 CKW
DORY 11
DOBY 12
DOB 13
OA1 18
OA2 19
OA3 20
OA4 21
OB1 14
OB2 15
OB3 16
OB4 17
IO11 57
IO12 56
IO13 55
IO14 54
IO15 53
IO16 52
IO17 51
IO18 50
IO21 49
IO22 48
IO23 47
IO24 46
IO25 45
IO26 44
IO27 43
IO28 41
IO31 38
IO32 37
IO33 36
IO34 35
IO35 34
IO36 33
IO37 32
IO38 31
IO41 30
IO42 29
IO43 28
IO44 27
IO45 25
IO46 24
IO47 23
IO48 22
OE
63

CKR	; MAIN SIGNAL P/S CONV. CLOCK INPUT
CKS	; SUB SIGNAL P/S CONV. CLOCK INPUT
CKW	; S/P CONV. CLOCK INPUT
CLR	; START LINE ID SIGNAL INPUT
DO	; INPUT DATA REPLACEMENT CONTROL INPUT
DOB	; BECOME LOW LEVEL WHEN DORY OR DOBY IS LOW.
DORY	; BECOME LOW LEVEL WHEN R-Y OR MAIN ARE ALL LOW.
DOBY	; BECOME LOW LEVEL WHEN B-Y OR MAIN ARE ALL LOW.
I1-I4	; SERIAL DATA INPUTS
IO11-IO48	; PARALLEL DATA INPUTS/OUTPUTS
MOD1,2	; MODE CONTROL. INPUTS
MTR	; MASTER/SLAVE CONTROL INPUT
NCKR	; PHASE CONTROL CLOCK(FOR OA1-OA4)INPUT
NCKW	; DIVIDING CLOCK INPUT
OA1-OA4	; SERIAL DATA/MAIN/R-Y OUTPUTS
OB1-OB4	; SERIAL DATA/MAIN/B-Y OUTPUTS
OE	; READ/WRITE CONTROL INPUT
RMAI	; MAIN PARALLEL DATA LATCH CONTROL INPUT

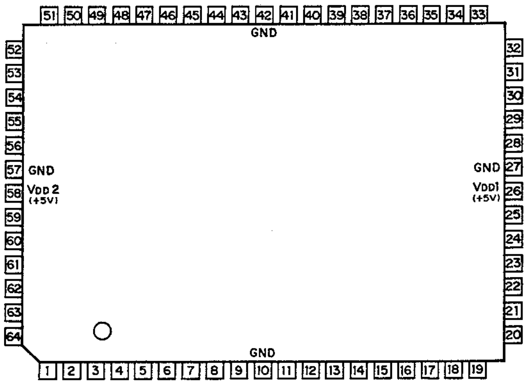
PIN NO.	IN/ OUT	PIN NAME	PIN NO.	IN/ OUT	PIN NAME	PIN NO.	IN/ OUT	PIN NAME	PIN NO.	IN/ OUT	PIN NAME
1	I	NCKW	17	O	OB4	33	I/O	IO36	49	I/O	IO21
2	I	DO	18	O	OA1	34	I/O	IO35	50	I/O	IO18
3	I	CKS	19	O	OA2	35	I/O	IO34	51	I/O	IO17
4	I	RSUB	20	O	OA3	36	I/O	IO33	52	I/O	IO16
5	I	CKR	21	O	OA4	37	I/O	IO32	53	I/O	IO15
6	I	NCKR	22	I/O	IO48	38	I/O	IO31	54	I/O	IO14
7	I	CLR	23	I/O	IO47	39	I	MOD1	55	I/O	IO13
8	I	RMAI	24	I/O	IO46	40	I	MOD2	56	I/O	IO12
9	I	MTR	25	I/O	IO45	41	I/O	IO28	57	I/O	IO11
10	—	GND	26	—	VDD	42	—	GND	58	—	VDD
11	I/O	DORY	27	I/O	IO44	43	I/O	IO27	59	I	I1
12	I/O	DOBY	28	I/O	IO43	44	I/O	IO26	60	I	I2
13	I/O	DOB	29	I/O	IO42	45	I/O	IO25	61	I	I3
14	O	OB1	30	I/O	IO41	46	I/O	IO24	62	I	I4
15	O	OB2	31	I/O	IO38	47	I/O	IO23	63	I	OE
16	O	OB3	32	I/O	IO37	48	I/O	IO22	64	I	CKW


59~62
I1~4
63
OE
22~25, 27~38, 41, 43~57
IO11~18
IO21~28
IO31~38
IO41~48
9
MTR
11, 12, 13
DORY
DOBY
DOB
SELECTOR
GATE
DO DETECTOR
GATE
SELECTOR
REGISTER
REGISTER (SUB) (B-Y)
REGISTER
GATE
14~17
OB1~4
P → S CONVERTER
DOC
SHIFT REGISTER
S → P CONVERTER
SELECTOR
SELE-CTOR
REGISTER (MAIN) (R-Y)
REGISTER
GATE
18~21
OA1~4
P → S CONVERTER
TDM CHROMA SEPARATOR/EXPANDER
TIMING CLOCK & MODE GENERETOR
4 RSUB
3 CKS
8 RMAI
2 DO
40 MOD2
7 CLR
5 CKR
6 NCKR
1 NCKW
64 CKW
39 MODE1

CXD1095Q (SONY) FLAT PACKAGE

C-MOS I/O PORT EXPANDER

— TOP VIEW —


GND
GND
VDD 2 (+5V)
GND
VDD1 (+5V)
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
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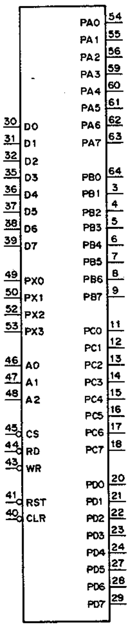
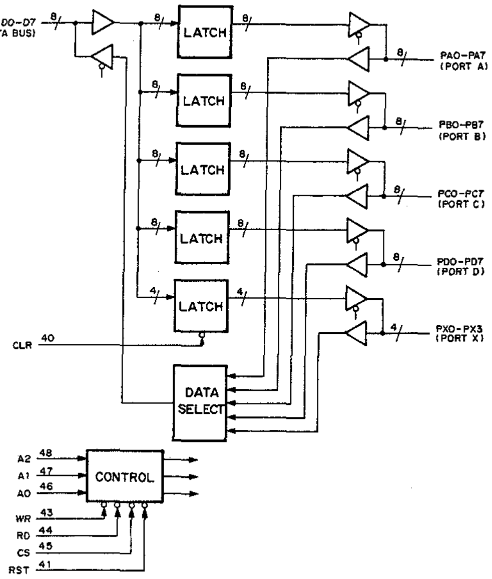
PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1			NC	17	○	○	PC6	33			NC	49	○	○	PX0
2			NC	18	○	○	PC7	34			NC	50	○	○	PX1
3	○	○	PB1	19			NC	35	○	○	D3	51			NC
4	○	○	PB2	20	○	○	PD0	36	○	○	D4	52	○	○	PX2
5	○	○	PB3	21	○	○	PD1	37	○	○	D5	53	○	○	PX3
6	○	○	PB4	22	○	○	PD2	38	○	○	D6	54	○	○	PA0
7	○	○	PB5	23	○	○	PD3	39	○	○	D7	55	○	○	PA1
8	○	○	PB6	24	○	○	PD4	40	○		CLR	56	○	○	PA2
9	○	○	PB7	25			GND	41	○		RST	57			GND
10			GND	26	○		VDD (+5V)	42			GND	58	○		VDD (+5V)
11	○	○	PC0	27	○	○	PD5	43	○		WR	59	○	○	PA3
12	○	○	PC1	28	○	○	PD6	44	○		RD	60	○	○	PA4
13	○	○	PC2	29	○	○	PD7	45	○		CS	61	○	○	PA5
14	○	○	PC3	30	○	○	D0	46	○		A0	62	○	○	PA6
15	○	○	PC4	31	○	○	D1	47	○		A1	63	○	○	PA7
16	○	○	PC5	32	○	○	D2	48	○		A2	64	○	○	PB0


30 D0
31 D1
32 D2
35 D3
36 D4
37 D5
38 D6
39 D7
49 PX0
50 PX1
52 PX2
53 PX3
46 A0
47 A1
48 A2
45 CS
44 RD
43 WR
41 RST
40 CLR
PA0 54
PA1 55
PA2 56
PA3 59
PA4 60
PA5 61
PA6 62
PA7 63
PB0 64
PB1 3
PB2 4
PB3 5
PB4 6
PB5 7
PB6 8
PB7 9
PC0 11
PC1 12
PC2 13
PC3 14
PC4 15
PC5 16
PC6 17
PC7 18
PD0 20
PD1 21
PD2 22
PD3 23
PD4 24
PD5 27
PD6 28
PD7 29

CS	RD	WR	A2	A1	A0	MODE
0	0	1	0	0	0	PORT A → DATA BUS
0	0	1	0	0	1	PORT B → DATA BUS
0	0	1	0	1	0	PORT C → DATA BUS
0	0	1	0	1	1	PORT D → DATA BUS
0	0	1	1	0	0	PORT X → DATA BUS
0	0	1	1	0	1	——
0	0	1	1	1	0	——
0	0	1	1	1	1	——
0	1	0	0	0	0	DATA BUS → PORT A
0	1	0	0	0	1	DATA BUS → PORT B
0	1	0	0	1	0	DATA BUS → PORT C
0	1	0	0	1	1	DATA BUS → PORT D
0	1	0	1	0	0	DATA BUS → PORT X
0	1	0	1	0	1	——
0	1	0	1	1	0	DATA BUS → CTL REG.1
0	1	0	1	1	1	DATA BUS → CTL REG.2
1	X	X	X	X	X	DATA BUS ; HI-Z

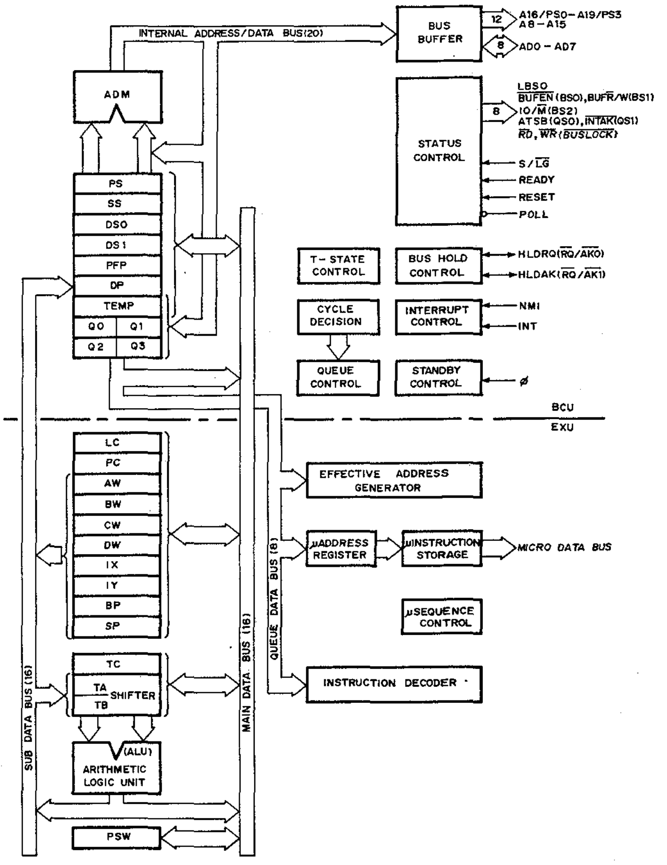
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z, HIGH IMPEDANCE

D0-D7	; DATA BUS INPUTS/OUTPUTS
CS	; CHIP SELECT INPUT
RD	; READ STROBE INPUT
WR	; WRITE STROBE INPUT
A0-A2	; ADDRESS INPUT
RST	; RESET INPUT
CLR	; CLEAR INPUT
PA0-PA7	; PORT A INPUTS/OUTPUTS
PB0-PB7	; PORT B INPUTS/OUTPUTS
PC0-PC7	; PORT C INPUTS/OUTPUTS
PD0-PD7	; PORT D INPUTS/OUTPUTS
PX0-PX3	; PORT X INPUTS/OUTPUTS

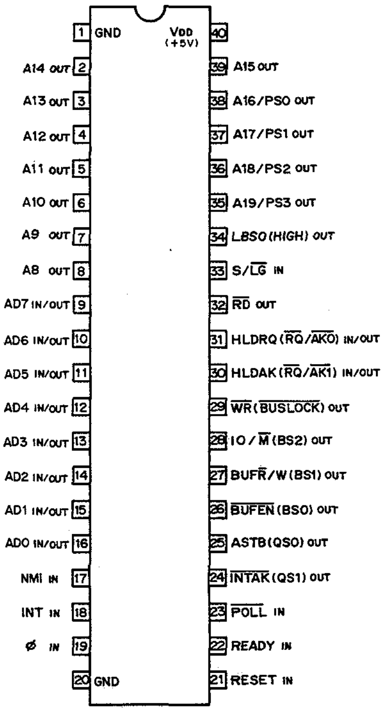

D0–D7 (DATA BUS)
8
LATCH
LATCH
LATCH
LATCH
LATCH
4
PA0–PA7 (PORT A)
PB0–PB7 (PORT B)
PC0–PC7 (PORT C)
PD0–PD7 (PORT D)
PX0–PX3 (PORT X)
CLR 40
DATA SELECT
CONTROL
A2 48
A1 47
A0 46
WR 43
RD 44
CS 45
RST 41

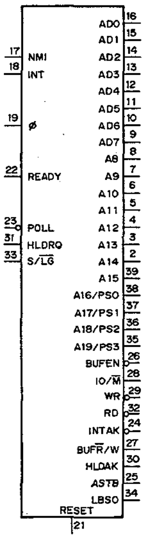
PIN No.	FUNCTION	
	S/$\overline{\mathrm{LG}}$=HIGH LEVEL	S/$\overline{\mathrm{LG}}$=LOW LEVEL
24	$\overline{\mathrm{INTAK}}$	QS1
25	ASTB	QS0
26	$\overline{\mathrm{BUFEN}}$	BS0
27	BUF $\overline{\mathrm{R}}$/W	BS1
28	IO/$\overline{\mathrm{M}}$	BS2
29	$\overline{\mathrm{WR}}$	$\overline{\mathrm{BUSLOCK}}$
30	HLDAK	$\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK1}}$
31	HLDRQ	$\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK0}}$
34	LBS0	HIGH LEVEL

A8–A15;	ADDRESS BUS OUTPUTS
AD0–AD7;	ADDRESS/DATA BUS INPUTS/OUTPUTS
NMI;	NON-MASKABLE INTERRUPT INPUT
INT;	MASKABLE INTERRUPT INPUT
ϕ;	CLOCK INPUT
$\overline{\mathrm{INTAK}}$;	INTERRUPT ACKNOWLEDGE OUTPUT
ASTB;	ADDRESS STROBE OUTPUT
$\overline{\mathrm{BUFEN}}$;	BUFFER ENABLE OUTPUT
BUF$\overline{\mathrm{R}}$/W;	BUFFER $\overline{\mathrm{READ}}$/WRITE OUTPUT
IO/$\overline{\mathrm{M}}$;	IO/MEMORY OUTPUT
$\overline{\mathrm{WR}}$;	WRITE STROBE OUTPUT
HLDAK;	HOLD ACKNOWLEDGE OUTPUT
HLDRQ;	HOLD REQUEST INPUT
$\overline{\mathrm{RD}}$;	READ STROBE OUTPUT
S/$\overline{\mathrm{LG}}$;	SMALL/$\overline{\mathrm{LARGE}}$ INPUT
LBS0;	LATCHED BUS STATUS 0 OUTPUT
A16/PS0–A19/PS3;	ADDRESS BUS/PROCESSOR STATUS OUTPUTS
QS0 ,1;	QUEUE STATUS OUTPUTS
BS0–BS2;	BUS STATUS OUTPUTS
$\overline{\mathrm{BUSLOCK}}$;	BUS LOCK OUTPUT
$\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK0}}$,1;	HOLD REQUEST/ACKNOWLEDGE INPUTS/OUTPUTS

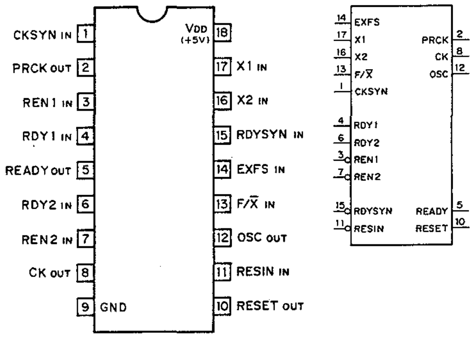

INTERNAL ADDRESS/DATA BUS(20)
BUS BUFFER
12
A16/PS0–A19/PS3
A8–A15
8
AD0–AD7
ADM
STATUS CONTROL
LBS0
$\overline{\mathrm{BUFEN}}$(BS0),BUF$\overline{\mathrm{R}}$/W(BS1)
IO/$\overline{\mathrm{M}}$(BS2)
ATSB(QS0),$\overline{\mathrm{INTAK}}$(QS1)
$\overline{\mathrm{RD}}$,$\overline{\mathrm{WR}}$($\overline{\mathrm{BUSLOCK}}$)
S/$\overline{\mathrm{LG}}$
READY
RESET
POLL
PS
SS
DS0
DS1
PFP
DP
TEMP
Q0
Q1
Q2
Q3
T-STATE CONTROL
BUS HOLD CONTROL
HLDRQ($\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK0}}$)
HLDAK($\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK1}}$)
CYCLE DECISION
INTERRUPT CONTROL
NMI
INT
QUEUE CONTROL
STANDBY CONTROL
ϕ
BCU
EXU
LC
PC
AW
BW
CW
DW
IX
IY
BP
SP
TC
TA
TB
SHIFTER
(ALU)
ARITHMETIC LOGIC UNIT
PSW
SUB DATA BUS (16)
MAIN DATA BUS (16)
QUEUE DATA BUS (8)
EFFECTIVE ADDRESS GENERATOR
μADDRESS REGISTER
μINSTRUCTION STORAGE
MICRO DATA BUS
μSEQUENCE CONTROL
INSTRUCTION DECODER

CXQ70108D-8 (SONY)
uPD70108D-5 (NEC)
uPD70108D-8 (NEC)
C-MOS 8-BIT MICROPROCESSOR
— TOP VIEW —

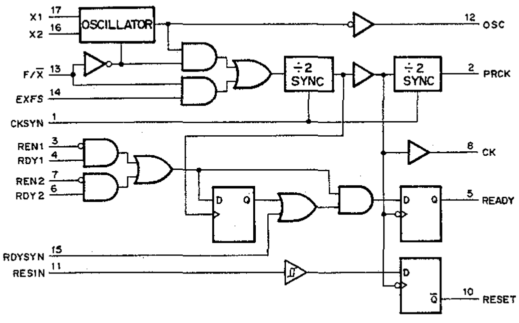

1 GND
2 A14 OUT
3 A13 OUT
4 A12 OUT
5 A11 OUT
6 A10 OUT
7 A9 OUT
8 A8 OUT
9 AD7 IN/OUT
10 AD6 IN/OUT
11 AD5 IN/OUT
12 AD4 IN/OUT
13 AD3 IN/OUT
14 AD2 IN/OUT
15 AD1 IN/OUT
16 AD0 IN/OUT
17 NMI IN
18 INT IN
19 ϕ IN
20 GND
40 VDD (+5V)
39 A15 OUT
38 A16/PS0 OUT
37 A17/PS1 OUT
36 A18/PS2 OUT
35 A19/PS3 OUT
34 LBS0(HIGH) OUT
33 S/$\overline{\mathrm{LG}}$ IN
32 $\overline{\mathrm{RD}}$ OUT
31 HLDRQ($\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK0}}$) IN/OUT
30 HLDAK($\overline{\mathrm{RQ}}$/$\overline{\mathrm{AK1}}$) IN/OUT
29 $\overline{\mathrm{WR}}$($\overline{\mathrm{BUSLOCK}}$) OUT
28 IO/$\overline{\mathrm{M}}$(BS2) OUT
27 BUF$\overline{\mathrm{R}}$/W(BS1) OUT
26 $\overline{\mathrm{BUFEN}}$(BS0) OUT
25 ASTB(QS0) OUT
24 $\overline{\mathrm{INTAK}}$(QS1) OUT
23 $\overline{\mathrm{POLL}}$ IN
22 READY IN
21 RESET IN


17 NMI
18 INT
19 ϕ
22 READY
23 POLL
31 HLDRQ
33 S/$\overline{\mathrm{LG}}$
AD0 16
AD1 15
AD2 14
AD3 13
AD4 12
AD5 11
AD6 10
AD7 9
A8 8
A9 7
A10 6
A11 5
A12 4
A13 3
A14 2
A15 39
A16/PS0 38
A17/PS1 37
A18/PS2 36
A19/PS3 35
BUFEN 26
IO/$\overline{\mathrm{M}}$ 28
WR 29
RD 32
INTAK 24
BUF$\overline{\mathrm{R}}$/W 27
HLDAK 30
ASTB 25
LBS0 34
RESET 21

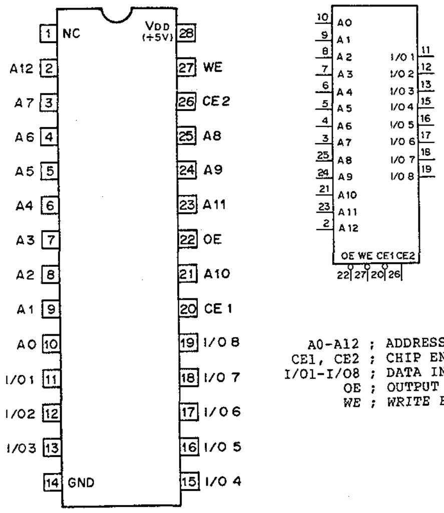
CXQ71011P (SONY)
C-MOS CLOCK PULSE GENERATOR/DRIVER
— TOP VIEW —


CKSYN IN 1
PRCK OUT 2
REN1 IN 3
RDY1 IN 4
READY OUT 5
RDY2 IN 6
REN2 IN 7
CK OUT 8
9 GND
10 RESET OUT
11 RESIN IN
12 OSC OUT
13 F/X̄ IN
14 EXFS IN
15 RDYSYN IN
16 X2 IN
17 X1 IN
VDD (+5V) 18
EXFS
X1
X2
F/X̄
CKSYN
RDY1
RDY2
REN1
REN2
RDYSYN
RESIN
PRCK
CK
OSC
READY
RESET

X1, X2 ; CRYSTAL INPUT
EXFS ; EXTERNAL FREQUENCY SOURCE INPUT
F/$\overline{X}$; FREQUENCY/CRYSTAL SELECT INPUT
CK ; PROCESSOR CLOCK OUTPUT
PRCK ; PERIPHERAL CLOCK OUTPUT
OSC ; OSCILLATOR OUTPUT
CKSYN ; CLOCK SYNCHRONIZATION INPUT
RESIN ; RESET INPUT
RDY1, RDY2 ; BUS READY INPUT
REN1, REN2 ; READY ENABLE INPUT
RDYSYN ; READY SYNCHRONIZATION SELECT INPUT


X1 17
X2 16
OSCILLATOR
F/X̄ 13
EXFS 14
CKSYN 1
REN1 3
RDY1 4
REN2 7
RDY2 6
RDYSYN 15
RESIN 11
÷2 SYNC
÷2 SYNC
D Q
12 OSC
2 PRCK
8 CK
5 READY
10 RESET

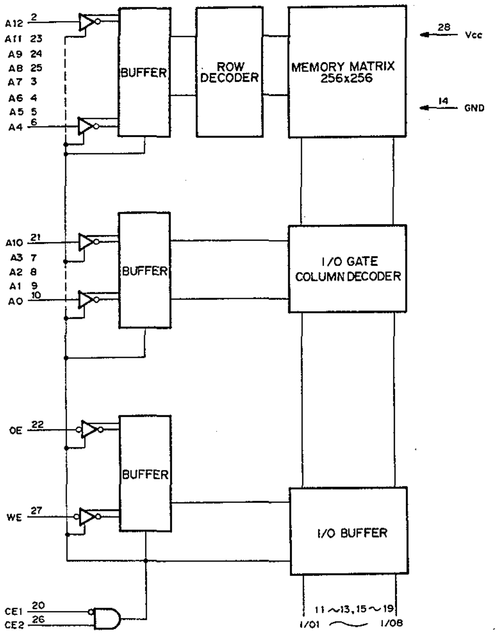
CXK5864AP-10L (SONY) (ACCESS TIME = 100nS)
CMOS 8192 WORDx8 BIT STATIC RAM
— TOP VIEW —


1 NC
A12 2
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
I/O1 11
I/O2 12
I/O3 13
14 GND
15 I/O 4
16 I/O 5
17 I/O 6
18 I/O 7
19 I/O 8
20 CE 1
21 A10
22 OE
23 A11
24 A9
25 A8
26 CE2
27 WE
VDD (+5V) 28
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
OE WE CE1 CE2

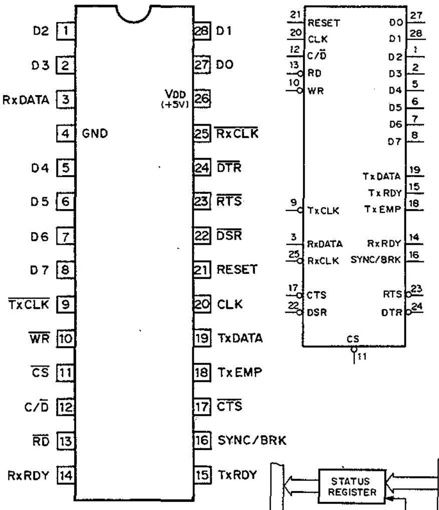
A0-A12 ; ADDRESS INPUT
CE1, CE2 ; CHIP ENABLE INPUT
I/O1-I/O8 ; DATA INPUT/OUTPUT
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

CE1	CE2	OE	WE	MODE	I/O TERMINAL
1	X	X	X	NOT SELECT	HIGH IMPEDANCE
X	0	X	X	NOT SELECT	HIGH IMPEDANCE
0	1	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	1	0	1	READ	OUTPUT DATA
0	1	X	0	WRITE	INPUT DATA

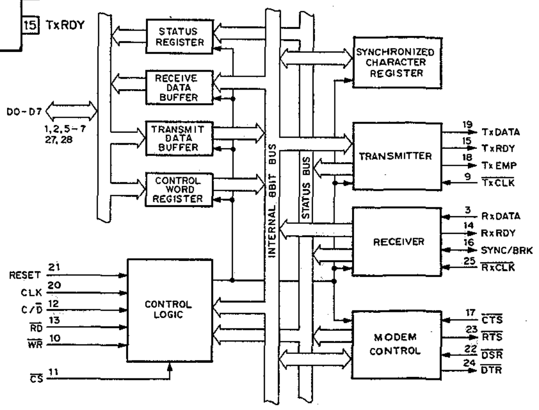
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE


A12 2
A11 23
A9 24
A8 25
A7 3
A6 4
A5 5
A4 6
BUFFER
ROW DECODER
MEMORY MATRIX 256x256
28 Vcc
14 GND
A10 21
A3 7
A2 8
A1 9
A0 10
BUFFER
I/O GATE COLUMN DECODER
OE 22
WE 27
BUFFER
I/O BUFFER
CE1 20
CE2 26
11~13, 15~19
I/01 ~ I/08

CXQ71051P (SONY)
C-MOS SERIAL CONTROL UNIT
— TOP VIEW —


D2 1
D3 2
RxDATA 3
4 GND
D4 5
D5 6
D6 7
D7 8
T̄x̄C̄L̄K̄ 9
W̄R̄ 10
C̄S̄ 11
C/D̄ 12
R̄D̄ 13
RxRDY 14
15 TxRDY
16 SYNC/BRK
17 C̄T̄S̄
18 TxEMP
19 TxDATA
20 CLK
21 RESET
22 D̄S̄R̄
23 R̄T̄S̄
24 D̄T̄R̄
25 R̄x̄C̄L̄K̄
VDD (+5V) 26
27 D0
28 D1
RESET
CLK
C/D̄
RD
WR
TxCLK
RxDATA
RxCLK
CTS
DSR
D0
D1
D2
D3
D4
D5
D6
D7
TxDATA
TxRDY
TxEMP
RxRDY
SYNC/BRK
RTS
DTR
CS

CLK :CLOCK
$\overline{CS}$:CHIP SELECT
$\overline{CTS}$:CLEAR TO SEND
C/$\overline{D}$:CONTROL OR DATA
D0-7 :DATA BUS
$\overline{DSR}$:DATA SET READY
$\overline{DTR}$:DATA TERMINAL READY
$\overline{RD}$:READ STROBE
RESET :RESET
$\overline{RTS}$:REQUEST TO SEND
$\overline{RXCLK}$:RECEIVER CLOCK
RXDATA :RECEIVE DATA
RXRDY :RECEIVER READY
SYNC/BRK :SYNCRONIZATION/BREAK
$\overline{TXCLK}$:TRANSMITTER CLOCK
TXDATA :TRANSMIT DATA
TXEMP :TRANSMITTER EMPTY
TXRDY :TRANSMITTER READY
$\overline{WR}$:WRITE STROBE

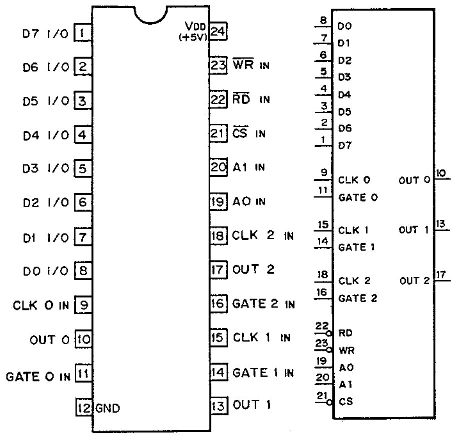

STATUS REGISTER
RECEIVE DATA BUFFER
TRANSMIT DATA BUFFER
CONTROL WORD REGISTER
SYNCHRONIZED CHARACTER REGISTER
D0-D7
1,2,5-7
27,28
INTERNAL 8BIT BUS
STATUS BUS
TRANSMITTER
19 TxDATA
15 TxRDY
18 TxEMP
9 T̄x̄C̄L̄K̄
RECEIVER
3 RxDATA
14 RxRDY
16 SYNC/BRK
25 R̄x̄C̄L̄K̄
RESET 21
CLK 20
C/D̄ 12
R̄D̄ 13
W̄R̄ 10
C̄S̄ 11
CONTROL LOGIC
MODEM CONTROL
17 C̄T̄S̄
23 R̄T̄S̄
22 D̄S̄R̄
24 D̄T̄R̄

$\overline{CS}$	$\overline{RD}$	$\overline{WR}$	C/$\overline{D}$	MODE	FUNCTION
0	0	1	0	RECEIVE DATA BUFFER--> DATA BUS	READ RECEIVE DATA
0	0	1	1	STATUS REGISTER--> DATA BUS	READ STATUS
0	1	0	0	DATA BUS--> TRANSMIT DATA BUFFER	WRITE RECEIVE DATA
0	1	0	1	DATA BUS--> CONTROL WORD REGISTER	WRITE CONTROL WORD
0	1	1	X	DATA BUS:HIGH IMPEDANCE	
1	X	X	X	DATA BUS:HIGH IMPEDANCE	

1:HIGH LEVEL
0:LOW LEVEL
X:DON'T CARE

CXQ71054P (SONY)
uPD71054C (NEC)
C-MOS PROGRAMMABLE TIMER COUNTER

— TOP VIEW —

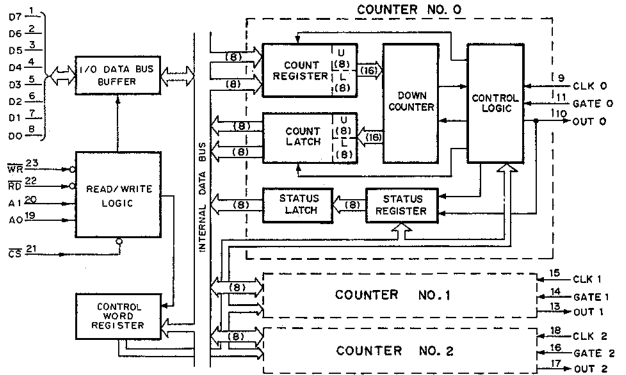

D7 I/O 1
D6 I/O 2
D5 I/O 3
D4 I/O 4
D3 I/O 5
D2 I/O 6
D1 I/O 7
D0 I/O 8
CLK 0 IN 9
OUT 0 10
GATE 0 IN 11
12 GND
13 OUT 1
14 GATE 1 IN
15 CLK 1 IN
16 GATE 2 IN
17 OUT 2
18 CLK 2 IN
19 A0 IN
20 A1 IN
21 CS IN
22 RD IN
23 WR IN
VDD (+5V) 24
8 D0
7 D1
6 D2
5 D3
4 D4
3 D5
2 D6
1 D7
9 CLK 0
11 GATE 0
OUT 0 10
15 CLK 1
14 GATE 1
OUT 1 13
18 CLK 2
16 GATE 2
OUT 2 17
22 RD
23 WR
19 A0
20 A1
21 CS

FUNCTION TABLE

INPUTS					FUNCTION
CS	RD	WR	A1	A0	
0	1	0	0	0	Load Counter No. 0
0	1	0	0	1	Load Counter No. 1
0	1	0	1	0	Load Counter No. 2
0	1	0	1	1	Control Word
0	0	1	0	0	Read Counter 0
0	0	1	0	1	Read Counter 1
0	0	1	1	0	Read Counter 2
0	0	1	1	1	No-Operation (HI-Z)
1	X	X	X	X	Disable (HI-Z)
0	1	1	X	X	No-Operation (HI-Z)

D7-D0 ; 8-BIT DATA I/O
CLK 0-2 ; COUNTER CLOCK
GATE 0-2 ; COUNTER GATE
OUT 0-2 ; COUNTER OUTPUT
RD ; READ COUNTER
WR ; WRITE CMD OR DATA
CS ; CHIP SELECT
A0,A1 ; COUNTER SELECT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


COUNTER NO. 0
D7 1
D6 2
D5 3
D4 4
D3 5
D2 6
D1 7
D0 8
I/O DATA BUS BUFFER
WR 23
RD 22
A1 20
A0 19
CS 21
READ/WRITE LOGIC
CONTROL WORD REGISTER
INTERNAL DATA BUS
(8)
COUNT REGISTER
U (8) L (8)
(16)
DOWN COUNTER
CONTROL LOGIC
COUNT LATCH
STATUS LATCH
STATUS REGISTER
9 CLK 0
11 GATE 0
10 OUT 0
COUNTER NO. 1
15 CLK 1
14 GATE 1
13 OUT 1
COUNTER NO. 2
18 CLK 2
16 GATE 2
17 OUT 2

CONTROL WORD FORMAT

D7	D6	D5	D4	D3	D2	D1	D0
SC1	SC0	RL1	RL0	M2	M1	M0	BCD

BCD	OPERATION
0	16-BIT BINARY
1	BCD (4-DECADE)

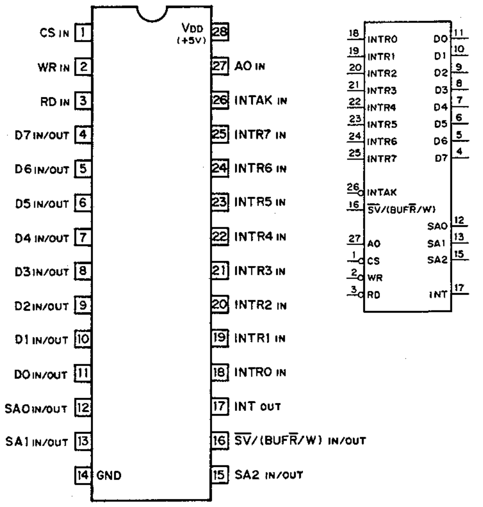
M2	M1	M0	MODE
0	0	0	0
0	0	1	1
X	1	0	2
X	1	1	3
1	0	0	4
1	0	1	5

RL1	RL0	OPERATION
0	0	COUNTER LATCHING
0	1	READ/LOAD LSB ONLY
1	0	READ/LOAD MSB ONLY
1	1	LSB FIRST THEN MSB

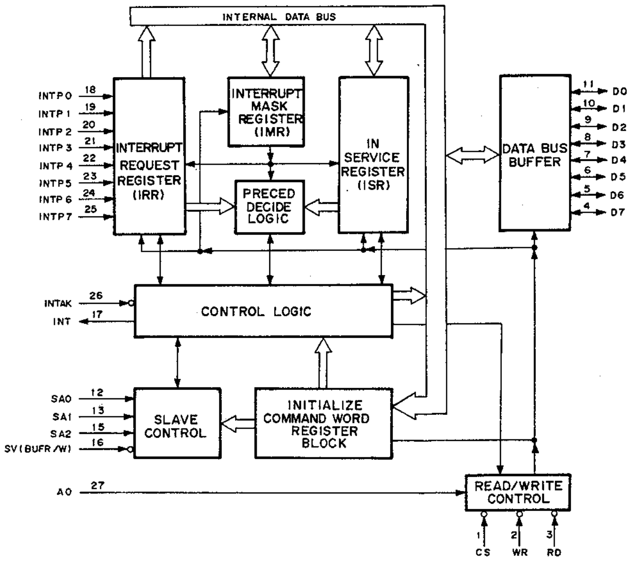
SC1	SC0	SELECTED COUNTER
0	0	COUNTER No. 0
0	1	COUNTER No. 1
1	0	COUNTER No. 2
1	1	MULTIPLE LATCH CMD

CXQ71059P (SONY)
uPD71059C (NEC)
C-MOS INTERRUPT CONTROL UNIT

— TOP VIEW —

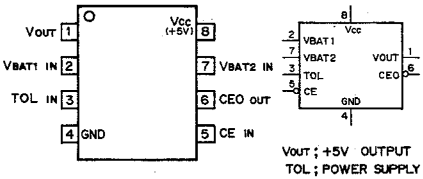

CS IN 1
WR IN 2
RD IN 3
D7 IN/OUT 4
D6 IN/OUT 5
D5 IN/OUT 6
D4 IN/OUT 7
D3 IN/OUT 8
D2 IN/OUT 9
D1 IN/OUT 10
D0 IN/OUT 11
SA0 IN/OUT 12
SA1 IN/OUT 13
14 GND
15 SA2 IN/OUT
16 SV/(BUFR/W) IN/OUT
17 INT OUT
18 INTR0 IN
19 INTR1 IN
20 INTR2 IN
21 INTR3 IN
22 INTR4 IN
23 INTR5 IN
24 INTR6 IN
25 INTR7 IN
26 INTAK IN
27 A0 IN
VDD (+5V) 28
18 INTR0
19 INTR1
20 INTR2
21 INTR3
22 INTR4
23 INTR5
24 INTR6
25 INTR7
D0 11
D1 10
D2 9
D3 8
D4 7
D5 6
D6 5
D7 4
26 INTAK
16 SV/(BUFR/W)
SA0 12
SA1 13
SA2 15
27 A0
1 CS
2 WR
3 RD
INT 17

INTR0-INTR7 ; INTERRUPT REQUEST INPUTS
D0-D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0 ; ADDRESS INPUT
INT ; INTERRUPT OUTPUT
INTAK ; INTERRUPT ACKNOWLEDGE INPUT
SV/(BUFR/W) ; SLAVE/BUFFER READ/WRITE INPUT/OUTPUT
SA0-SA2 ; SLAVE ADDRESS INPUTS/OUTPUTS


INTERNAL DATA BUS
INTP0 18
INTP1 19
INTP2 20
INTP3 21
INTP4 22
INTP5 23
INTP6 24
INTP7 25
INTERRUPT REQUEST REGISTER (IRR)
INTERRUPT MASK REGISTER (IMR)
PRECED DECIDE LOGIC
IN SERVICE REGISTER (ISR)
DATA BUS BUFFER
11 D0
10 D1
9 D2
8 D3
7 D4
6 D5
5 D6
4 D7
INTAK 26
INT 17
CONTROL LOGIC
SA0 12
SA1 13
SA2 15
SV(BUFR/W) 16
SLAVE CONTROL
INITIALIZE COMMAND WORD REGISTER BLOCK
A0 27
READ/WRITE CONTROL
1 CS
2 WR
3 RD

DS1210 (DALLAS SEMICONDUCTOR)
NONVOLATILE CONTROLLER

— TOP VIEW —

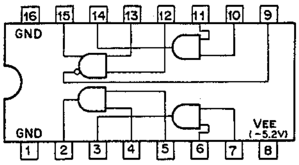

VOUT 1
VBAT1 IN 2
TOL IN 3
4 GND
5 CE IN
6 CEO OUT
7 VBAT2 IN
VCC (+5V) 8
8 VCC
2 VBAT1
7 VBAT2
3 TOL
5 CE
VOUT 1
CEO 6
GND 4

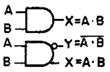
VOUT ; +5V OUTPUT
TOL ; POWER SUPPLY TOLERANCE INPUT
VBAT1, VBAT2 ; + BATTERY INPUTS
CE ; CHIP ENABLE INPUT
CEO ; CHIP ENABLE OUTPUT

HD10104 (HITACHI)
MC10104L (MOTOROLA)

ECL 2-INPUT AND GATE

— TOP VIEW —


16
15
14
13
12
11
10
9
GND
GND
VEE
(−5.2V)
1
2
3
4
5
6
7
8


A
B
X=A·B
A
B
Y=$\overline{A·B}$
X=A·B

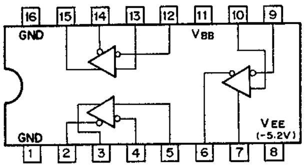
A	B	X	Y
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

HD10116 (HITACHI)
MC10116L (MOTOROLA)
MC10H116L (MOTOROLA)

ECL DIFFERENTIAL OR/NOR LINE RECEIVER

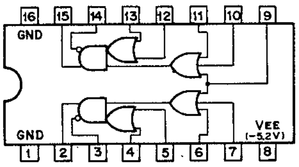
— TOP VIEW —

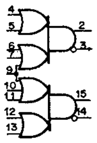

16
15
14
13
12
11
10
9
GND
VBB
GND
VEE
(−5.2V)
1
2
3
4
5
6
7
8

HD10117 (HITACHI)
MC10117L (MOTOROLA)

ECL 2-WIDE 2-3-INPUT OR-AND/OR-AND-INVERT GATE

— TOP VIEW —

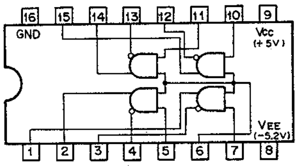

16
15
14
13
12
11
10
9
GND
GND
VEE
(−5.2V)
1
2
3
4
5
6
7
8


4
5
6
7
9
10
11
12
13
2
3
15
14

HD10124 (HITACHI)
MC10124L (MOTOROLA)

ECL TTL-TO-ECL TRANSLATOR

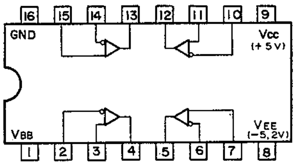
— TOP VIEW —


16
15
14
13
12
11
10
9
GND
Vcc
(+5V)
VEE
(−5.2V)
1
2
3
4
5
6
7
8

HD10125 (HITACHI)
MC10125L (MOTOROLA)

ECL ECL-TO-TTL TRANSLATOR

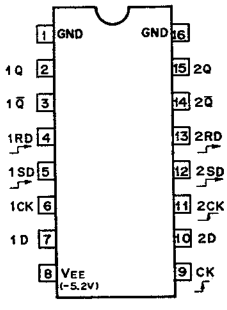
— TOP VIEW —

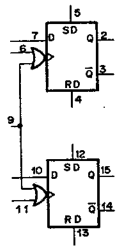

16
15
14
13
12
11
10
9
GND
Vcc
(+5V)
VBB
VEE
(−5.2V)
1
2
3
4
5
6
7
8

HD10131 (HITACHI)
MC10131L (MOTOROLA)

ECL D-TYPE FLIP FLOP

— TOP VIEW —


1 GND
GND 16
1Q 2
15 2Q
1$\overline{Q}$ 3
14 2$\overline{Q}$
1RD 4
13 2RD
1SD 5
12 2SD
1CK 6
11 2CK
1D 7
10 2D
8 VEE (−5.2V)
9 CK


5
SD
7
D
6
Q
2
$\overline{Q}$
3
RD
4
9
12
SD
10
D
Q
15
11
$\overline{Q}$
14
RD
13

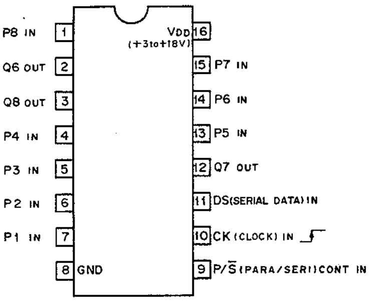
INPUTS				OUTPUTS	
SD	RD	CK	D	Q_{n+1}	$\overline{Q_{n+1}}$
1	0	X	X	1	0
0	1	X	X	0	1
1	1	X	X	ND	ND
0	0	↑	1	1	0
0	0	↑	0	0	1
0	0	0	X	Qn	$\overline{Qn}$

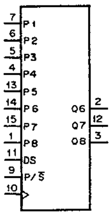
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
ND ; NOT DEFINED

HD14021BP (HITACHI)
MC14021BCP (MOTOROLA)
TC4021BP (TOSHIBA)

C-MOS ASYNCHRONOUS PARALLEL/SYNCHRONOUS SERIAL INPUT 8-BIT STATIC SHIFT REGISTER

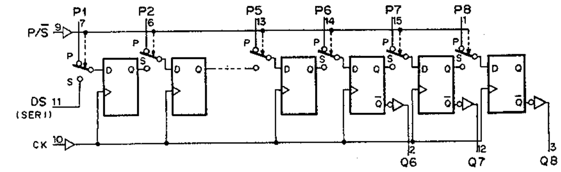
— TOP VIEW —


P8 IN 1
Q6 OUT 2
Q8 OUT 3
P4 IN 4
P3 IN 5
P2 IN 6
P1 IN 7
8 GND
VDD 16
(+3to+18V)
15 P7 IN
14 P6 IN
13 P5 IN
12 Q7 OUT
11 DS(SERIAL DATA) IN
10 CK (CLOCK) IN
9 P/$\overline{S}$ (PARA/SERI) CONT IN


7 P1
6 P2
5 P3
4 P4
13 P5
14 P6
15 P7
1 P8
11 DS
9 P/$\overline{S}$
10
Q6 2
Q7 12
Q8 3

tn				tn + 1							
INPUT				INTERNAL OUTPUTS					OUTPUTS		
P/$\overline{S}$ CONT	CK	P	DS	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	X	P1 ~ P8	X	P1	P2	P3	P4	P5	P6	P7	P8
0	↑	X	1	1	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n
0	↑	X	0	0	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n
X	0	X	X	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n	Q8n

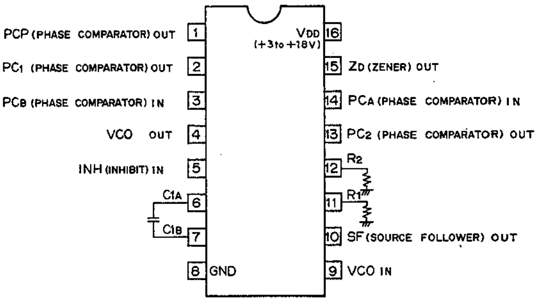
0;LOW LEVEL X;DON'T CARE. tn; BEFORE CLOCK
1;HIGH LEVEL tn+1; AFTER CLOCK

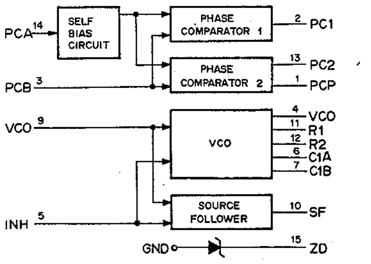

P1
P2
P5
P6
P7
P8
7
6
13
14
15
1
P/$\overline{S}$ 9
P
S
DS 11
(SERI)
CK 10
D
Q
$\overline{Q}$
2
12
3
Q6
Q7
Q8

HD14046BP (HITACHI)
MC14046BCP (MOTOROLA)
TC4046BP (TOSHIBA)

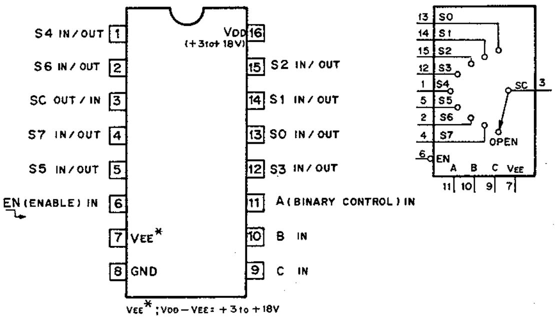
C-MOS PHASE LOCKED LOOP

— TOP VIEW —


PCP (PHASE COMPARATOR) OUT 1
PC1 (PHASE COMPARATOR) OUT 2
PCB (PHASE COMPARATOR) IN 3
VCO OUT 4
INH (INHIBIT) IN 5
C1A 6
C1B 7
8 GND
VDD 16
(+3to+18V)
15 ZD (ZENER) OUT
14 PCA (PHASE COMPARATOR) IN
13 PC2 (PHASE COMPARATOR) OUT
12 R2
11 R1
10 SF (SOURCE FOLLOWER) OUT
9 VCO IN


PCA 14
SELF BIAS CIRCUIT
PHASE COMPARATOR 1
2 PC1
PCB 3
PHASE COMPARATOR 2
13 PC2
1 PCP
VCO 9
VCO
4 VCO
11 R1
12 R2
6 C1A
7 C1B
INH 5
SOURCE FOLLOWER
10 SF
GND
15 ZD

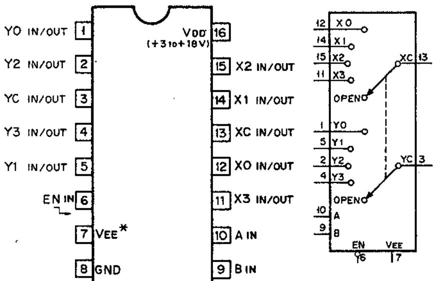
HD14051BP (HITACHI)
MC14051BCP (MOTOROLA)
TC4051BP (TOSHIBA)
C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —


S4 IN/OUT 1
S6 IN/OUT 2
SC OUT/IN 3
S7 IN/OUT 4
S5 IN/OUT 5
EN (ENABLE) IN 6
7 VEE*
8 GND
VDD 16 (+3 to +18V)
15 S2 IN/OUT
14 S1 IN/OUT
13 S0 IN/OUT
12 S3 IN/OUT
11 A (BINARY CONTROL) IN
10 B IN
9 C IN
VEE*; VDD − VEE: +3 to +18V
13 S0
14 S1
15 S2
12 S3
1 S4
5 S5
2 S6
4 S7
SC 3
OPEN
6 EN
A B C VEE
11 10 9 7

EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

HD14052BP (HITACHI)
MC14052BCP (MOTOROLA)
TC4052BP (TOSHIBA)
C-MOS 4-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —

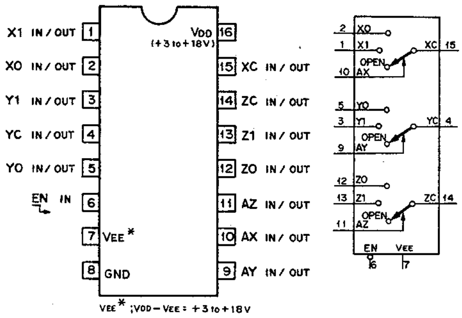

Y0 IN/OUT 1
Y2 IN/OUT 2
YC IN/OUT 3
Y3 IN/OUT 4
Y1 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD 16 (+3 to +18V)
15 X2 IN/OUT
14 X1 IN/OUT
13 XC IN/OUT
12 X0 IN/OUT
11 X3 IN/OUT
10 A IN
9 B IN
12 X0
14 X1
15 X2
11 X3
XC 13
OPEN
1 Y0
5 Y1
2 Y2
4 Y3
YC 3
OPEN
10 A
9 B
EN VEE
6 7

VEE*; VDD − VEE = +3 to +18V

CONTROL INPUTS			"ON" CHANNEL
EN	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

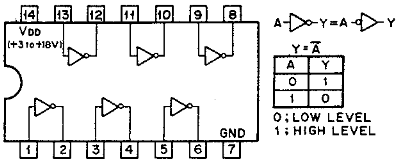
HD14053BP (HITACHI)
MC14053BCP (MOTOROLA)
TC4053BP (TOSHIBA)
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD 16 (+3 to +18V)
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
VEE*; VDD − VEE = +3 to +18V
2 X0
1 X1
OPEN
10 AX
XC 15
5 Y0
3 Y1
OPEN
9 AY
YC 4
12 Z0
13 Z1
OPEN
11 AZ
ZC 14
EN VEE
6 7

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z)	
0	0	0
0	1	1
1	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

HD14069UBP (HITACHI)
MB84069B (FUJITSU)
MC14069BCP (MOTOROLA)
TC4069UBP (TOSHIBA)
C-MOS INVERTER
— TOP VIEW —

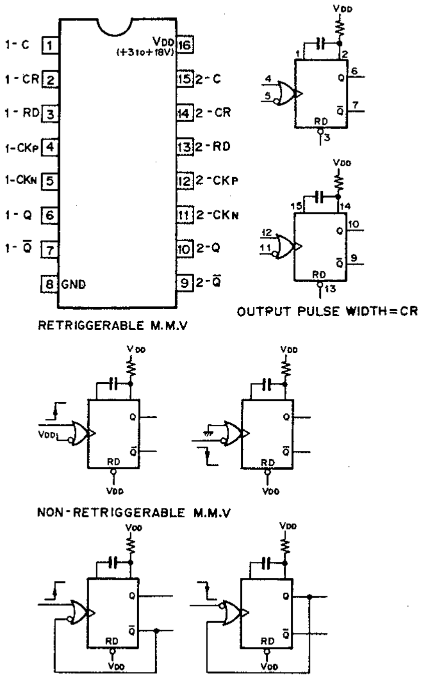

14 13 12 11 10 9 8
VDD (+3 to +18V)
GND
1 2 3 4 5 6 7
A Y = A Y

Y = $\overline{A}$

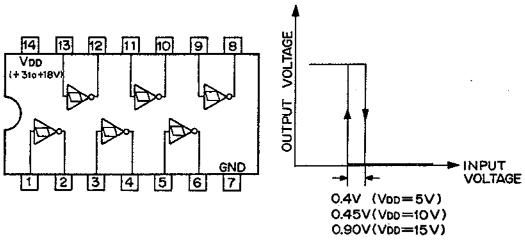
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

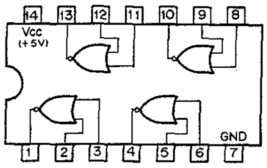
HD14538BP (HITACHI)
M4538BP (MITUBISHI)
MC14538BCP (MOTOROLA)
TC4538BP (TOSHIBA)
C-MOS DUAL RETRIGGERABLE/NON-RETRIGGERABLE
MONOSTABLE MULTIVIBRATOR
— TOP VIEW —

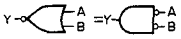

1-C 1
1-CR 2
1-RD 3
1-CKP 4
1-CKN 5
1-Q 6
1-Q̄ 7
8 GND
VDD 16 (+3 to +18V)
15 2-C
14 2-CR
13 2-RD
12 2-CKP
11 2-CKN
10 2-Q
9 2-Q̄
VDD
1 2
4 5
Q 6
Q̄ 7
RD 3
VDD
15 14
12 11
Q 10
Q̄ 9
RD 13
OUTPUT PULSE WIDTH = CR
RETRIGGERABLE M.M.V
VDD
VDD
Q Q̄ RD
NON-RETRIGGERABLE M.M.V
VDD
Q Q̄ RD

HD14584BP (HITACHI)
MC14584BCP (MOTOROLA)
C-MOS SCHMITT TRIGGER INVERTER
— TOP VIEW —


14 13 12 11 10 9 8
VDD (+3 to +18V)
GND
1 2 3 4 5 6 7
OUTPUT VOLTAGE
INPUT VOLTAGE
0.4V (VDD=5V)
0.45V (VDD=10V)
0.90V (VDD=15V)

74F02PC (FSC)
HD74LS02P (HITACHI)
SN74LS02N (TI)
TTL 2-INPUT POSITIVE-NOR GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

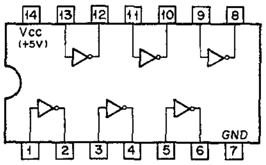


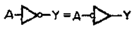
$Y=\overline{A+B}=\overline{A}\cdot\overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0: LOW LEVEL
1; HIGH LEVEL

HD74LS04P (HITACHI)
SN74LS04N (TI)
TTL INVERTER
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

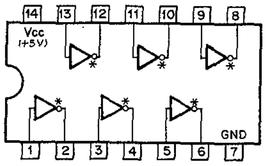


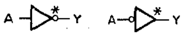
$Y=\overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

HD74LS05P (HITACHI)
SN74LS05N (TI)
TTL INVERTER WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

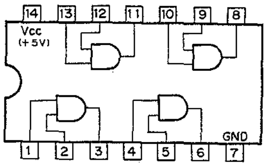


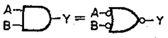
$Y=\overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL
*; OPEN COLLECTOR

HD74LS08P (HITACHI)
SN74LS08N (TI)
TTL 2-INPUT POSITIVE-AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

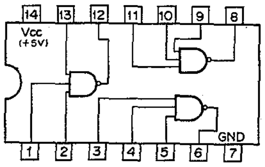


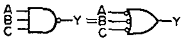
$Y=A\cdot B=\overline{\overline{A}+\overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

HD74LS10P (HITACHI)
SN74ALS10N (TI)
SN74LS10N (TI)
SN74S10N (TI)
TTL 3-INPUT POSITIVE NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

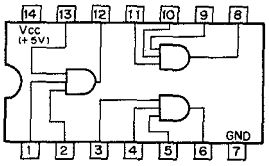


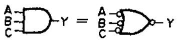
$Y=\overline{ABC}=\overline{A}+\overline{B}+\overline{C}$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

HD74LS11P (HITACHI)
SN74LS11N (TI)
TTL 3-INPUT POSITIVE-AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

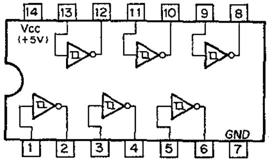


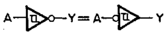
$Y=A\cdot B\cdot C=\overline{\overline{A}+\overline{B}+\overline{C}}$

A	B	C	Y
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

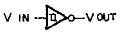
0; LOW LEVEL
1; HIGH LEVEL

HD74LS14P (HITACHI)
SN74LS14N (TI)
TTL SCHMITT TRIGGER INVERTER
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

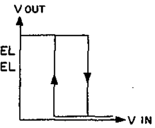


$Y=\overline{A}$



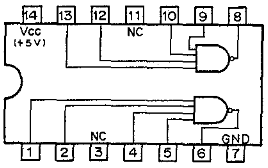
A	Y
0	1
1	0

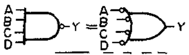
0; LOW LEVEL
1; HIGH LEVEL



SN7414N-----0.9 1.7V
SN74LS14N---0.8 1.6V

74F20PC (FSC)
HD74LS20P (HITACHI)
SN74ALS20AN (TI)
SN74LS20N (TI)
TTL 4-INPUT POSITIVE NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
NC
NC
GND
1
2
3
4
5
6
7

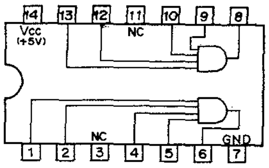

A
B
C
D
Y =
A
B
C
D
Y

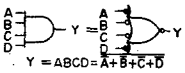
$Y=\overline{A\cdot B\cdot C\cdot D}=\overline{A}+\overline{B}+\overline{C}+\overline{D}$

A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
⋮	⋮	⋮	⋮	⋮
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

HD74LS21P (HITACHI)
SN74LS21N (TI)
TTL 4-INPUT POSITIVE AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
NC
NC
GND
1
2
3
4
5
6
7


A
B
C
D
Y =
A
B
C
D
Y

$Y=ABCD=\overline{\overline{A}+\overline{B}+\overline{C}+\overline{D}}$

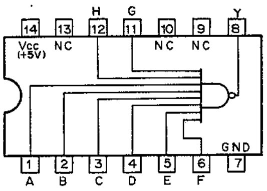
A	B	C	D	Y
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
⋮	⋮	⋮	⋮	⋮
1	1	0	1	0
1	1	1	0	0
1	1	1	1	1

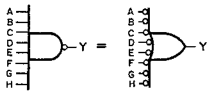
0; LOW LEVEL
1; HIGH LEVEL

HD74LS30P (HITACHI)
SN74ALS30AN (TI)
SN74LS30N (TI)

TTL 8-INPUT POSITIVE-NAND GATE

— TOP VIEW —


14
13
12
11
10
9
8
H
G
Y
Vcc (+5V)
NC
NC
NC
GND
1
2
3
4
5
6
7
A
B
C
D
E
F



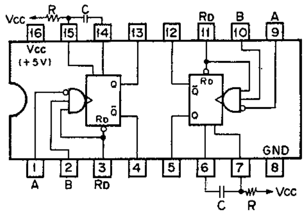
$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H}$

$= \overline{A} + \overline{B} + \overline{C} + ---- + \overline{H}$

HD74LS123P (HITACHI)
SN74123N (TI)
SN74LS123N (TI)

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

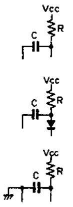
— TOP VIEW —


Vcc
R
C
RD
B
A
16
15
14
13
12
11
10
9
Vcc (+5V)
Q
Q̄
RD
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH


Vcc
C
R
Vcc
C
R
Vcc
C
R

'123 ; $T_W = 0.28 \left(1 + \frac{700}{R}\right) CR$

'L123; $T_W = 0.33 \left(1 + \frac{700}{R}\right) CR$

'123 ; $T_W = 0.25 \left(1 + \frac{700}{R}\right) CR$

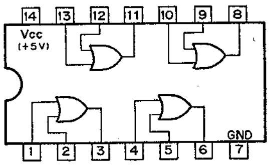
'L123; $T_W = 0.29 \left(1 + \frac{700}{R}\right) CR$

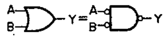
'LS123; $T_W = 0.45CR$

HD74LS32P (HITACHI)
SN74LS32N (TI)

TTL 2-INPUT POSITIVE-OR GATE

— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
GND
1
2
3
4
5
6
7



$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

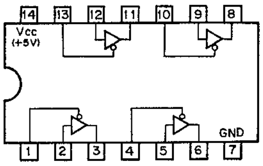
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

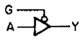
0; LOW LEVEL
1; HIGH LEVEL

HD74LS125AP (HITACHI)
SN74LS125AN (TI)

TTL BUS BUFFER GATES WITH 3-STATE OUTPUT

— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
GND
1
2
3
4
5
6
7



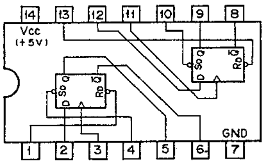
G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL HI-Z; HIGH IMPEDANCE

HD74LS74AP (HITACHI)
SN74ALS74AN (TI)
SN74LS74AN (TI)

TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET

— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
SD
RD
SD
RD
GND
1
2
3
4
5
6
7

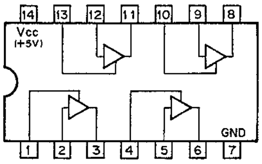
INPUTS				OUTPUTS	
SD	RD	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

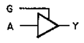
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
1*; NONSTABLE

HD74LS126AP (HITACHI)
SN74LS126AN (TI)

TTL BUS BUFFER GATE WITH 3-STATE OUTPUT

— TOP VIEW —


14
13
12
11
10
9
8
Vcc (+5V)
GND
1
2
3
4
5
6
7



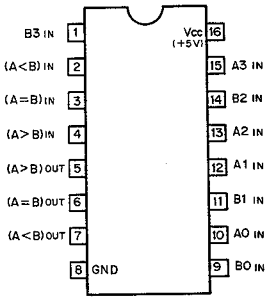
G	A	Y
1	1	1
1	0	0
0	X	HI-Z

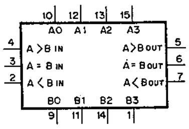
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

HD74LS85P (HITACHI)
SN74LS85N (TI)

TTL 4-BIT MAGNITUDE COMPARATOR

— TOP VIEW —


B3 IN 1
(A<B) IN 2
(A=B) IN 3
(A>B) IN 4
(A>B) OUT 5
(A=B) OUT 6
(A<B) OUT 7
8 GND
Vcc (+5V) 16
15 A3 IN
14 B2 IN
13 A2 IN
12 A1 IN
11 B1 IN
10 A0 IN
9 B0 IN


10
12
13
15
A0
A1
A2
A3
4
A>B IN
3
A=B IN
2
A<B IN
A>B OUT
5
A=B OUT
6
A<B OUT
7
B0
B1
B2
B3
9
11
14
1

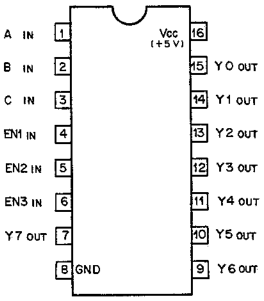
INPUTS								OUTPUTS		
DATA COMPARING					CASCADING					
	A3 , B3	A2 , B2	A1 , B1	A0 , B0	A<B	A=B	A>B	A<B	A=B	A>B
A>B	A3>B3	X	X	X	X	X	X	0	0	1
	A3=B3	A2>B2	X	X						
	A3=B3	A2=B2	A1>B1	X						
	A3=B3	A2=B2	A1=B1	A0>B0						
A=B	A3=B3	A2=B2	A1=B1	A0=B0	0	0	0	1	0	1
					0	0	1	0	0	1
					X	1	X	0	1	0
					1	0	0	1	0	0
					1	0	1	0	0	0
A<B	A3=B3	A2=B2	A1=B1	A0<B0	X	X	X	1	0	0
	A3=B3	A2=B2	A1<B1	X						
	A3=B3	A2<B2	X	X						
	A3<B3	X	X	X						

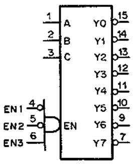
0; LOW LEVEL 1; HIGH LEVEL X; DON'T CARE

HD74LS138P (HITACHI)
SN74LS138N (TI)

TTL 3-TO-8-LINE DECODER/DEMULTIPLEXER

— TOP VIEW —


A IN 1
B IN 2
C IN 3
EN1 IN 4
EN2 IN 5
EN3 IN 6
Y7 OUT 7
8 GND
Vcc (+5V) 16
15 Y0 OUT
14 Y1 OUT
13 Y2 OUT
12 Y3 OUT
11 Y4 OUT
10 Y5 OUT
9 Y6 OUT


1
A
2
B
3
C
EN1 4
EN2 5
EN3 6
EN
Y0 15
Y1 14
Y2 13
Y3 12
Y4 11
Y5 10
Y6 9
Y7 7

INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

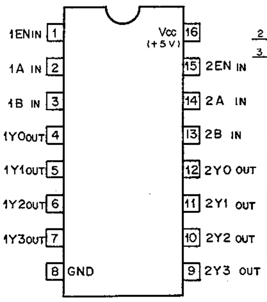
$EN = \overline{EN1} \cdot \overline{EN2} \cdot EN3$

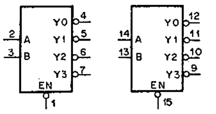
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

HD74LS139P (HITACHI)
SN74LS139N (TI)

TTL 2-TO-4-LINE DECODER/DEMULTIPLEXER

— TOP VIEW —


1ENIN 1
1A IN 2
1B IN 3
1YOOUT 4
1Y1OUT 5
1Y2OUT 6
1Y3OUT 7
8 GND
Vcc (+5V) 16
15 2EN IN
14 2A IN
13 2B IN
12 2YO OUT
11 2Y1 OUT
10 2Y2 OUT
9 2Y3 OUT


A
B
EN
Y0
Y1
Y2
Y3

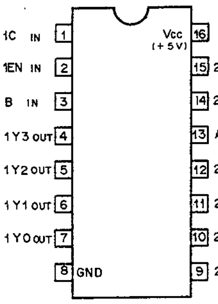
INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	YO
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

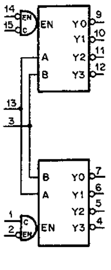
HD74LS155P (HITACHI)
SN74LS155N (TI)

TTL DUAL 2-TO-4-LINE DECODER/DEMULTIPLEXER

— TOP VIEW —


1C IN 1
1EN IN 2
B IN 3
1Y3 OUT 4
1Y2 OUT 5
1Y1 OUT 6
1YO OUT 7
8 GND
Vcc (+5V) 16
15 2C IN
14 2EN IN
13 A IN
12 2Y3OUT
11 2Y2 OUT
10 2Y1 OUT
9 2YO OUT

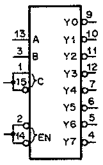
DUAL 2-TO-4-LINE DECODER


EN
A
B
C
Y0
Y1
Y2
Y3

INPUTS				OUTPUTS			
EN	C	B	A	Y3	Y2	Y1	YO
0	0	0	0	1	1	1	0
0	0	0	1	1	1	0	1
0	0	1	0	1	0	1	1
0	0	1	1	0	1	1	1
X	1	X	X	1	1	1	1
1	X	X	X	1	1	1	1

EN	C	B	A	Y3	Y2	Y1	YO
0	1	0	0	1	1	1	0
0	1	0	1	1	1	0	1
0	1	1	0	1	0	1	1
0	1	1	1	0	1	1	1
X	0	X	X	1	1	1	1
1	X	X	X	1	1	1	1

3-TO-8-LINE DECODER


A
B
C
EN
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7

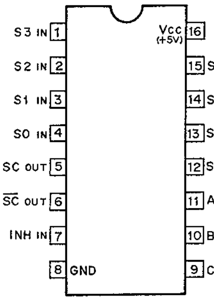
INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	YO
0	0	0	0	1	1	1	1	1	1	1	0
0	0	0	1	1	1	1	1	1	1	0	1
0	0	1	0	1	1	1	1	1	0	1	1
0	0	1	1	1	1	1	1	0	1	1	1
0	1	0	0	1	1	1	0	1	1	1	1
0	1	0	1	1	1	0	1	1	1	1	1
0	1	1	0	1	0	1	1	1	1	1	1
0	1	1	1	0	1	1	1	1	1	1	1
1	X	X	X	1	1	1	1	1	1	1	1

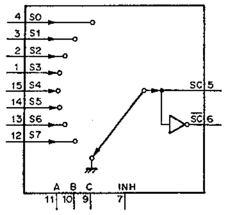
0;LOW LEVEL 1;HIGH LEVEL X;DON'T CARE

HD74LS151P (HITACHI)
SN74LS151N (TI)

TTL 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER

— TOP VIEW —


S3 IN 1
S2 IN 2
S1 IN 3
S0 IN 4
SC OUT 5
SC OUT 6
INH IN 7
8 GND
Vcc (+5V) 16
15 S4 IN
14 S5 IN
13 S6 IN
12 S7 IN
11 A IN
10 B IN
9 C IN


S0
S1
S2
S3
S4
S5
S6
S7
SC 5
SC 6
A
B
C
INH

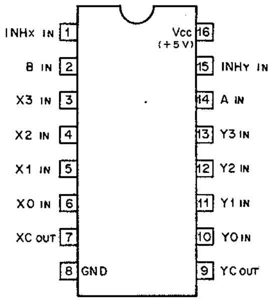
CONTROL INPUTS				ON CHANNEL
INH	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	GND

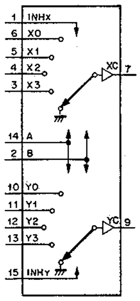
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

HD74LS153P (HITACHI)
SN74LS153N (TI)

TTL 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER

— TOP VIEW —


INHx IN 1
B IN 2
X3 IN 3
X2 IN 4
X1 IN 5
X0 IN 6
XC OUT 7
8 GND
Vcc (+5V) 16
15 INHY IN
14 A IN
13 Y3 IN
12 Y2 IN
11 Y1 IN
10 YO IN
9 YC OUT


INHx
X0
X1
X2
X3
XC 7
A
B
Y0
Y1
Y2
Y3
YC 9
INHY

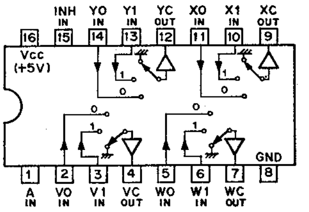
CONTROL IN			ON CHANNEL
INH	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	GND

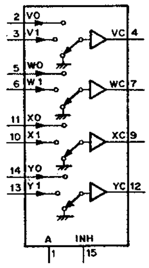
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

HD74LS157P (HITACHI)
SN74LS157N (TI)
SN74S157N (TI)

TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER

— TOP VIEW —


INH IN
YO IN
Y1 IN
YC OUT
XO IN
X1 IN
XC OUT
Vcc (+5V)
GND
A IN
VO IN
V1 IN
VC OUT
WO IN
W1 IN
WC OUT


VO
V1
VC 4
WO
W1
WC 7
XO
X1
XC 9
YO
Y1
YC 12
A
INH

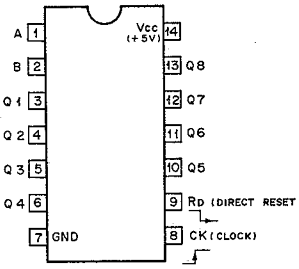
CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

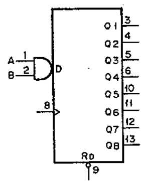
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

HD74LS164P (HITACHI)
SN74LS164N (TI)

TTL 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER

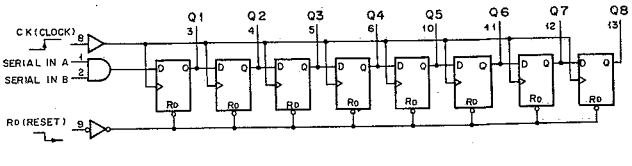
— TOP VIEW —


A 1
B 2
Q1 3
Q2 4
Q3 5
Q4 6
7 GND
Vcc (+5V) 14
13 Q8
12 Q7
11 Q6
10 Q5
9 RD (DIRECT RESET)
8 CK (CLOCK)


A
B
D
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
RD

INPUTS				OUTPUTS			
RD	CK	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1o	Q2o	----	Q8o
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

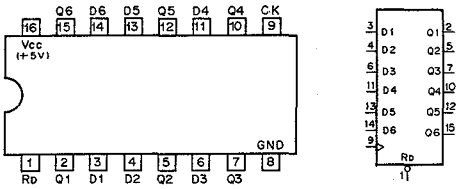
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

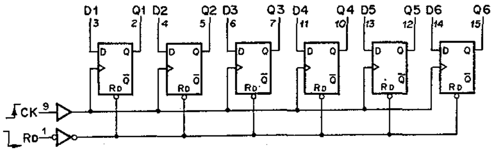

CK (CLOCK)
SERIAL IN A
SERIAL IN B
RD (RESET)
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
D
Q
RD

HD74LS174P (HITACHI)
SN74ALS174N (TI)
SN74LS174N (TI)

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET

— TOP VIEW —


Q6 D6 D5 Q5 D4 Q4 CK
16 15 14 13 12 11 10 9
Vcc (+5V)
GND
1 2 3 4 5 6 7 8
RD Q1 D1 D2 Q2 D3 Q3
3 D1 Q1 2
4 D2 Q2 5
6 D3 Q3 7
11 D4 Q4 10
13 D5 Q5 12
14 D6 Q6 15
9
RD
1


D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6
3 2 4 5 6 7 11 10 13 12 14 15
D Q
RD
CK 9
RD 1

EACH FLIP-FLOP

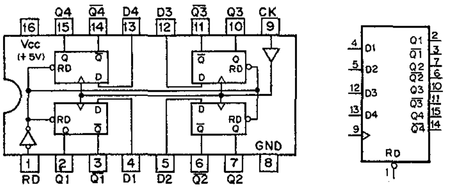
INPUTS			OUT
RD	CK	D	Q
0	X	X	0
1	⎍	0	0
1	⎍	1	1
1	0	X	Qo

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

HD74LS175P (HITACHI)
SN74LS175N (TI)

TTL D-TYPE FLIP-FLOP WITH CLEAR

— TOP VIEW —


Q4 Q̄4 D4 D3 Q̄3 Q3 CK
16 15 14 13 12 11 10 9
Vcc (+5V)
GND
1 2 3 4 5 6 7 8
RD Q1 Q̄1 D1 D2 Q̄2 Q2
4 D1 Q1 2
Q̄1 3
5 D2 Q2 7
Q̄2 6
12 D3 Q3 10
Q̄3 11
13 D4 Q4 15
Q̄4 14
9
RD
1

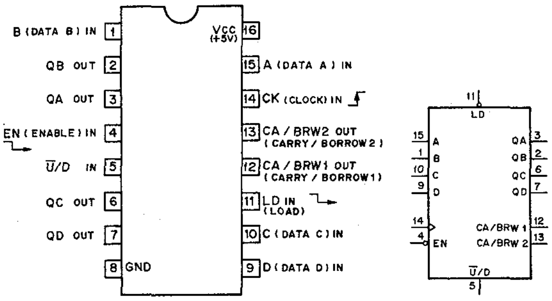
RD	CK	D	Q	$\overline{Q}$
0	X	X	0	1
1	⎍	1	1	0
1	⎍	0	0	1
1	0	X	Qo	$\overline{Q}$o

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

HD74LS191P (HITACHI)
SN74LS191N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER

— TOP VIEW —


B (DATA B) IN 1
QB OUT 2
QA OUT 3
EN (ENABLE) IN 4
U̅/D IN 5
QC OUT 6
QD OUT 7
8 GND
16 Vcc (+5V)
15 A (DATA A) IN
14 CK (CLOCK) IN
13 CA / BRW2 OUT (CARRY / BORROW2)
12 CA / BRW1 OUT (CARRY / BORROW1)
11 LD IN (LOAD)
10 C (DATA C) IN
9 D (DATA D) IN
11 LD
15 A
1 B
10 C
9 D
QA 3
QB 2
QC 6
QD 7
14
4 EN
CA/BRW 1 12
CA/BRW 2 13
U̅/D
5

MODE SELECTION

CONTROL INPUTS			MODE
LD	EN	$\overline{U}$/D	
0	X	X	PRESET (ASYNCHRONOUS)
1	1	X	NO COUNT
1	0	0	UP COUNT
1	0	1	DOWN COUNT

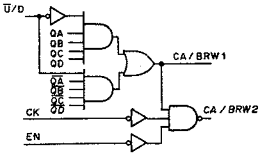
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

UP COUNT ↓
DOWN COUNT ↑

CA / BRW OUTPUTS


U̅/D
QA
QB
QC
QD
Q̄A
Q̄B
Q̄C
Q̄D
CA / BRW1
CK
EN
CA / BRW2

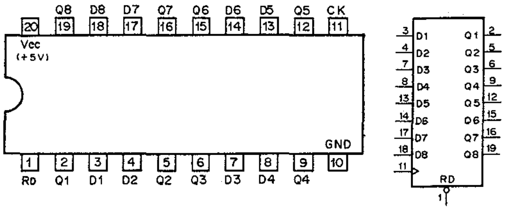
CA/BRW1 OUTPUT IS HIGH WHEN COUNT IS "15" AT UP-COUNT OR WHEN COUNT IS "0" AT DOWN COUNT.

CA/BRW2 OUTPUT IS LOW WHEN BOTH THE CLOCK AND EN INPUTS ARE LOW AND CA/BRW1 OUTPUT IS HIGH.

HD74LS273P (HITACHI)
SN74LS273N (TI)

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET

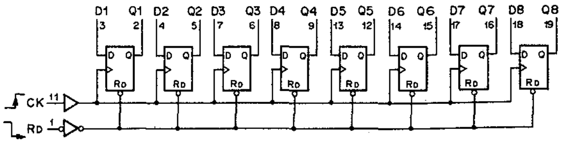
— TOP VIEW —


Q8 D8 D7 Q7 Q6 D6 D5 Q5 CK
20 19 18 17 16 15 14 13 12 11
Vcc (+5V)
GND
1 2 3 4 5 6 7 8 9 10
RD Q1 D1 D2 Q2 Q3 D3 D4 Q4
3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
11
RD
1

EACH FLIP-FLOP

INPUTS			OUT
RD	CK	D	Q
0	X	X	0
1	⎍	0	0
1	⎍	1	1
1	0	X	Qo

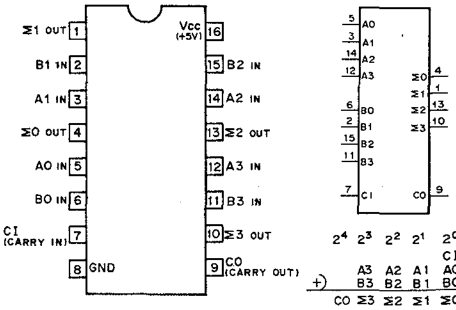
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6 D7 Q7 D8 Q8
3 2 4 5 7 6 8 9 13 12 14 15 17 16 18 19
D Q
RD
CK 11
RD 1

HD74LS283P (HITACHI)
SN74LS283N (TI)

TTL 4-BIT BINARY FULL ADDER

— TOP VIEW —

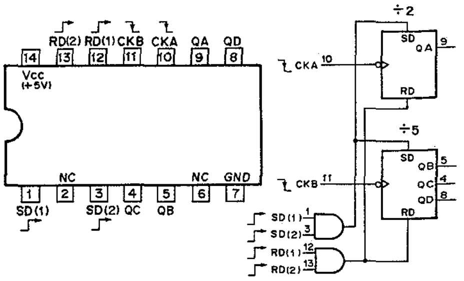

Σ1 OUT 1
B1 IN 2
A1 IN 3
Σ0 OUT 4
A0 IN 5
B0 IN 6
CI (CARRY IN) 7
8 GND
16 Vcc (+5V)
15 B2 IN
14 A2 IN
13 Σ2 OUT
12 A3 IN
11 B3 IN
10 Σ3 OUT
9 CO (CARRY OUT)
5 A0
3 A1
14 A2
12 A3
6 B0
2 B1
15 B2
11 B3
7 CI
Σ0 4
Σ1 1
Σ2 13
Σ3 10
CO 9

	2^4	2^3	2^2	2^1	2^0	DIGIT
					CI	CARRY IN
		A3	A2	A1	A0	DATA A IN
+)		B3	B2	B1	B0	DATA B IN
	CO	Σ3	Σ2	Σ1	Σ0	CARRY& SUM OUT
EX.					1	CI
		1	0	1	1	A
+)		1	0	1	0	B
	1	0	1	1	0	OUTPUTS
	CO	Σ3	Σ2	Σ1	Σ0	

HD74LS290P (HITACHI)
SN74LS290N (TI)

TTL DIVIDE-BY-2 AND DIVIDE-BY-5 COUNTER

— TOP VIEW —


RD(2) RD(1) CKB CKA QA QD
14 13 12 11 10 9 8
Vcc (+5V)
NC NC GND
1 2 3 4 5 6 7
SD(1) SD(2) QC QB
÷2
CKA 10
SD QA 9
RD
÷5
CKB 11
SD QB 5
QC 4
QD 8
RD
SD(1) 1
SD(2) 3
RD(1) 12
RD(2) 13

COUNT SEQUENCE
÷2 SECTION

COUNT	QA
0	0
1	1

÷5 SECTION

COUNT	QD	QC	QB
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0

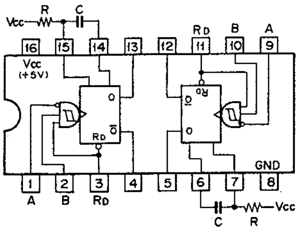
SET/RESET/COUNT FUNCTION

SET/RESET IN				OUTPUTS			
RD(1)	RD(2)	SD(1)	SD(2)	QD	QC	QB	QA
1	1	0	X	0	0	0	0
1	1	X	0	0	0	0	0
X	X	1	1	1	0	0	1
X	0	X	0	COUNT			
0	X	0	X	COUNT			
0	X	X	0	COUNT			
X	0	0	X	COUNT			

HD74LS221P (HITACHI)
SN74LS221N (TI)

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

— TOP VIEW —


R
C
Vcc
RD
B
A
16
15
14
13
12
11
10
9
Vcc
(+5V)
Q
$\overline{Q}$
RD
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

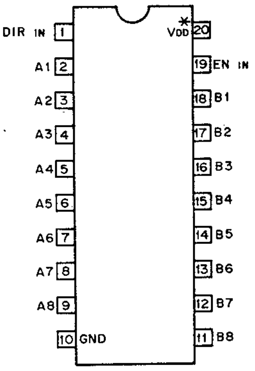
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

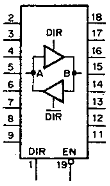
OUTPUT PULSE WIDTH = 0.7CR

HD74HC245P (HITACHI)
MC74HC245N (MOTOROLA)
SN74HC245N (TI)
TC74HC245P (TOSHIBA)

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUT

— TOP VIEW —

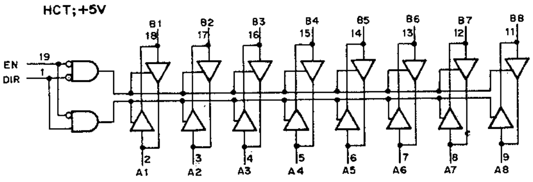

DIR IN 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
10 GND
11 B8
12 B7
13 B6
14 B5
15 B4
16 B3
17 B2
18 B1
19 EN IN
*
VDD 20


2
3
4
5
6
7
8
9
18
17
16
15
14
13
12
11
DIR
A
B
$\overline{DIR}$
DIR
EN
1
19

EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

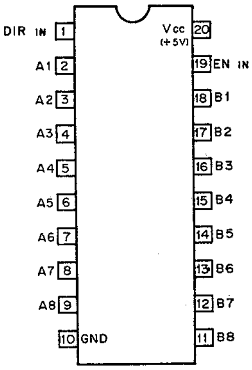
∗VDD HC; +2 to +6V
HCT; +5V


EN
19
DIR
1
B1
18
B2
17
B3
16
B4
15
B5
14
B6
13
B7
12
B8
11
2
A1
3
A2
4
A3
5
A4
6
A5
7
A6
8
A7
9
A8

HD74LS245P (HITACHI)
SN74ALS245N (TI)

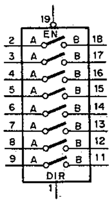
TTL BILATERAL SCHMITT TRIGGER BUS TRANSCEIVERS WITH 3-STATE OUTPUT

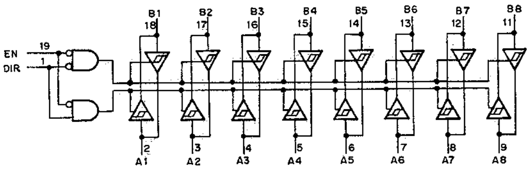
— TOP VIEW —


DIR IN 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
10 GND
11 B8
12 B7
13 B6
14 B5
15 B4
16 B3
17 B2
18 B1
19 EN IN
Vcc
(+5V)
20

EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.
HI-Z; HIGH IMPEDANCE

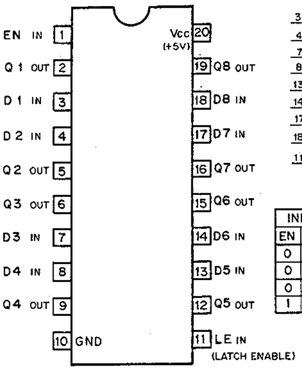

19
EN
2
3
4
5
6
7
8
9
A
B
18
17
16
15
14
13
12
11
DIR
1

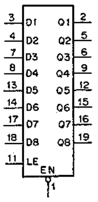

EN
19
DIR
1
B1
18
B2
17
B3
16
B4
15
B5
14
B6
13
B7
12
B8
11
2
A1
3
A2
4
A3
5
A4
6
A5
7
A6
8
A7
9
A8

HD74LS373P (HITACHI)
SN74LS373N (TI)

TTL 3-STATE OUTPUTS OCTAL LATCHES

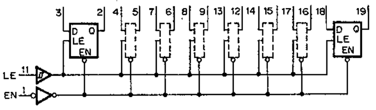
— TOP VIEW —


EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
11 LE IN
(LATCH ENABLE)
12 Q5 OUT
13 D5 IN
14 D6 IN
15 Q6 OUT
16 Q7 OUT
17 D7 IN
18 D8 IN
19 Q8 OUT
Vcc
(+5V)
20


3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
11 LE
EN
1

INPUTS			OUT
EN	D	LE	Q
0	1	1	1
0	0	1	0
0	X	0	Qo
1	X	X	HI-Z

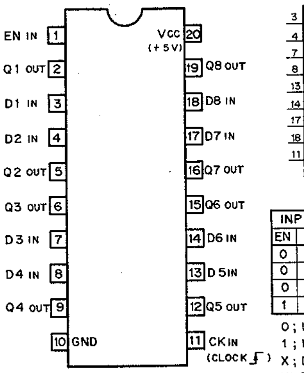
HI-Z;
HIGH IMPEDANCE
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

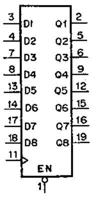

3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D
Q
LE
EN
LE
11
EN
1

HD74LS374P (HITACHI)
SN74LS374N (TI)

TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP

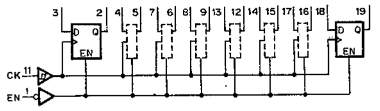
— TOP VIEW —


EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
11 CK IN
(CLOCK ⎍)
12 Q5 OUT
13 D5 IN
14 D6 IN
15 Q6 OUT
16 Q7 OUT
17 D7 IN
18 D8 IN
19 Q8 OUT
Vcc
(+5V)
20


3 D1 Q1 2
4 D2 Q2 5
7 D3 Q3 6
8 D4 Q4 9
13 D5 Q5 12
14 D6 Q6 15
17 D7 Q7 16
18 D8 Q8 19
11
EN
1

INPUTS			OUT
EN	D	CK	Q
0	1	↑	1
0	0	↑	0
0	X	0	Qo
1	X	X	HI-Z

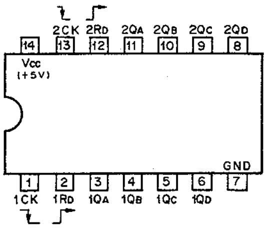
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

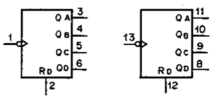

3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D
Q
EN
CK
11
EN
1

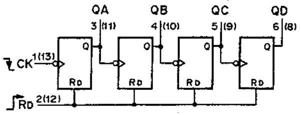
HD74LS393P (HITACHI)
SN74LS393N (TI)

TTL 4-BIT BINARY COUNTER

— TOP VIEW —


2CK
2RD
2QA
2QB
2QC
2QD
14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7
1CK
1RD
1QA
1QB
1QC
1QD


1
QA 3
QB 4
QC 5
RD QD 6
2
13
QA 11
QB 10
QC 9
RD QD 8
12


QA
QB
QC
QD
3 (11)
4 (10)
5 (9)
6 (8)
CK 1(13)
Q
RD
RD 2(12)

COUNT SEQUENCE

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

RESET/COUNT FUNCTION

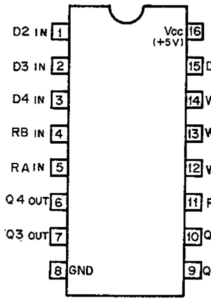
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

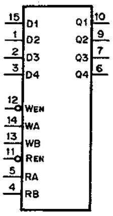
0; LOW LEVEL
1; HIGH LEVEL

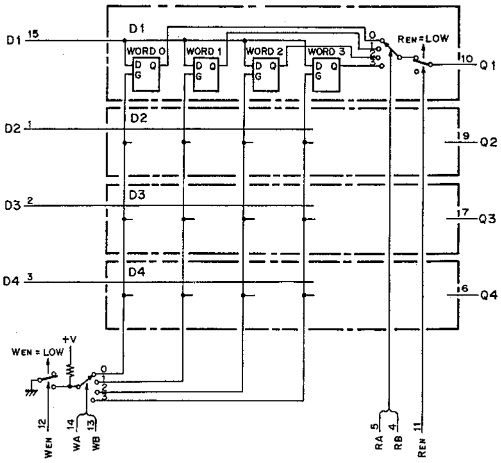
HD74LS670P (HITACHI)
SN74LS670N (TI)

TTL 4-BY-4 REGISTOR FILES WITH 3-STATE OUTPUT

— TOP VIEW —


D2 IN 1
D3 IN 2
D4 IN 3
RB IN 4
RA IN 5
Q4 OUT 6
Q3 OUT 7
8 GND
Vcc (+5V) 16
15 D1 IN
14 WA IN
13 WB IN
12 WEN IN
11 REN IN
10 Q1 OUT
9 Q2 OUT

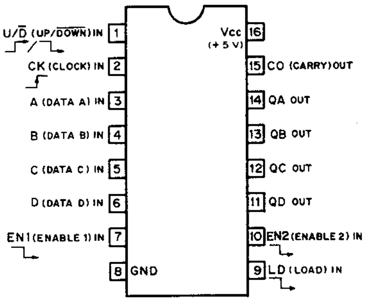

15 D1
1 D2
2 D3
3 D4
12 WEN
14 WA
13 WB
11 REN
5 RA
4 RB
Q1 10
Q2 9
Q3 7
Q4 6

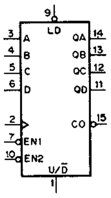

D1 15
D1
WORD 0
WORD 1
WORD 2
WORD 3
D Q
G
0
1
2
3
REN=LOW
10 Q1
D2 1
D2
19 Q2
D3 2
D3
17 Q3
D4 3
D4
16 Q4
+V
WEN=LOW
12 WEN
14 WA
13 WB
5 RA
4 RB
11 REN

HD74LS669P (HITACHI)
SN74LS669N (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY UP/DOWN COUNTER

— TOP VIEW —


U/D̄ (UP/DOWN̄) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc (+5 V) 16
15 CO (CARRY) OUT
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 LD (LOAD) IN


9
LD
3 A
4 B
5 C
6 D
2
7 EN1
10 EN2
QA 14
QB 13
QC 12
QD 11
CO 15
U/D̄
1

MODE SELECTION

INPUTS				MODE
LD	EN1	EN2	U/D̄	
0	X	X	X	PRESET
X	1	X	X	NO COUNT
X	X	1	X	NO COUNT
1	0	0	1	UP COUNT
1	0	0	0	DOWN COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

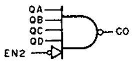
COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

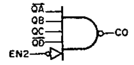
UP COUNT
DOWN COUN

CARRY OUTPUTS "CO"

AT U/D̄ = 1


QA
QB
QC
QD
EN2
CO

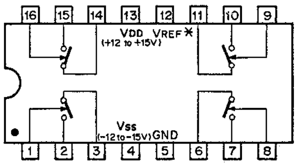
AT U/D̄ = 0

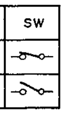
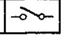

Q̄A
QB
QC
Q̄D
EN2
CO

HI1-0201-5 (HARRIS)

C-MOS ANALOG SWITCH

— TOP VIEW —


16
15
14
13
12
11
10
9
VDD
(+12 to +15V)
VREF ✱
Vss
(-12 to -15V)
GND
1
2
3
4
5
6
7
8

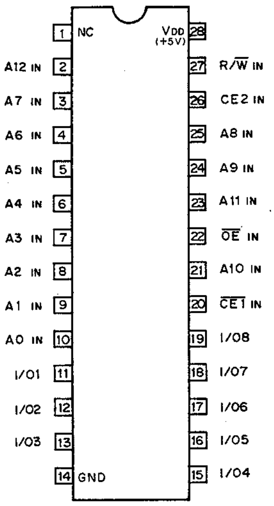
CONT IN	SW
0	
1	

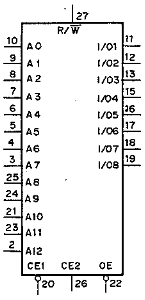
0 ; LOW LEVEL
1 ; HIGH LEVEL

✱ NOTE

INTERFACIAL DEVICE		VREF CONNECTION
TTL		Open
C-MOS	VDD ≦ 5.5V	Open
	VDD > 5.5V	To VDD of Interfacial IC

HM6264LP-12 (HITACHI) (ACCESS TIME = 120 nS)
HM6264LP-15 (HITACHI) (ACCESS TIME = 150 nS)
TC5565PL-12 (TOSHIBA) (ACCESS TIME = 120 nS)
TC5565PL-15 (TOSHIBA) (ACCESS TIME = 150 nS)
C-MOS 8192 WORDx8-BIT RAM
— TOP VIEW —

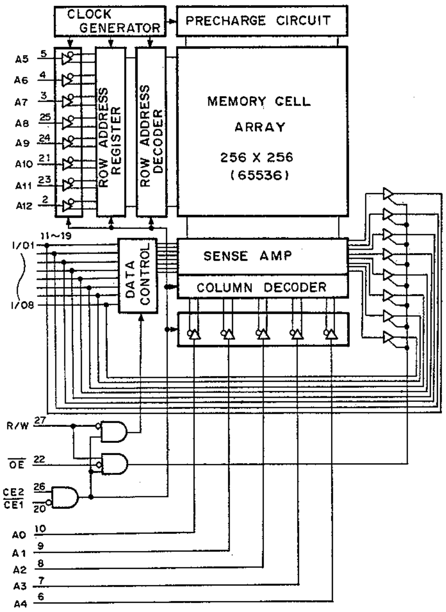

1 NC
2 A12 IN
3 A7 IN
4 A6 IN
5 A5 IN
6 A4 IN
7 A3 IN
8 A2 IN
9 A1 IN
10 A0 IN
11 I/O1
12 I/O2
13 I/O3
14 GND
28 VDD (+5V)
27 R/W IN
26 CE2 IN
25 A8 IN
24 A9 IN
23 A11 IN
22 OE IN
21 A10 IN
20 CE1 IN
19 I/O8
18 I/O7
17 I/O6
16 I/O5
15 I/O4


27
R/W
10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
I/O1 11
I/O2 12
I/O3 13
I/O4 15
I/O5 16
I/O6 17
I/O7 18
I/O8 19
CE1 CE2 OE
20 26 22

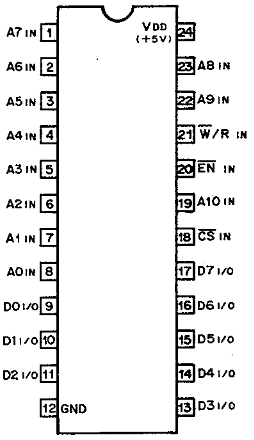
A0–12 ; ADDRESS INPUTS
CE1,2 ; CHIP ENABLE INPUTS
OE ; OUTPUT ENABLE INPUT
I/O1–8 ; DATA INPUTS/OUTPUTS
R/W ; READ/WRITE INPUT

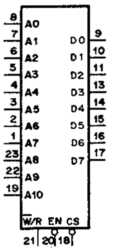
MODE	$\overline{CE1}$	CE2	$\overline{OE}$	R/$\overline{W}$	I/O1 ~ 8
READ	0	1	0	1	DATA OUTPUTS
WRITE	0	1	X	0	DATA INPUTS
OUTPUT DESELECT	0	1	1	1	HI–Z
STANDBY	1	X	X	X	HI–Z
	X	0	X	X	HI–Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE


CLOCK GENERATOR
PRECHARGE CIRCUIT
A5 5
A6 4
A7 3
A8 25
A9 24
A10 21
A11 23
A12 2
ROW ADDRESS REGISTER
ROW ADDRESS DECODER
MEMORY CELL ARRAY
256 X 256 (65536)
I/O1 11~19
I/O8
DATA CONTROL
SENSE AMP
COLUMN DECODER
R/W 27
OE 22
CE2 26
CE1 20
A0 10
A1 9
A2 8
A3 7
A4 6

HM6116ALSP-12 (HITACHI) (ACCESS TIME = 120 nS)
HM6116ALSP-15 (HITACHI) (ACCESS TIME = 150 nS)
MB8416A-12P-SK (FUJITSU) (ACCESS TIME = 120 nS)
MB8416A-15P-SK (FUJITSU) (ACCESS TIME = 150 nS)
MSM5128-12RS (OKI) (ACCESS TIME = 120 nS)
TC5517AFL (TOSHIBA) (ACCESS TIME = 250 nS) FLAT PACKAGE
TC5517CFL (TOSHIBA) (ACCESS TIME = 200 nS) FLAT PACKAGE
C-MOS 16384(2048x8)-BIT HIGH SPEED STATIC RAM
— TOP VIEW —

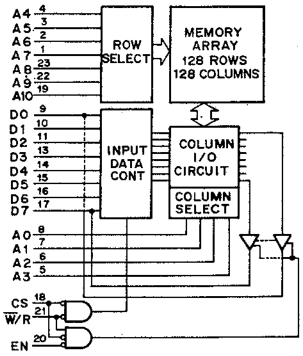

1 A7 IN
2 A6 IN
3 A5 IN
4 A4 IN
5 A3 IN
6 A2 IN
7 A1 IN
8 A0 IN
9 D0 I/O
10 D1 I/O
11 D2 I/O
12 GND
24 VDD (+5V)
23 A8 IN
22 A9 IN
21 W/R IN
20 EN IN
19 A10 IN
18 CS IN
17 D7 I/O
16 D6 I/O
15 D5 I/O
14 D4 I/O
13 D3 I/O


8 A0
7 A1
6 A2
5 A3
4 A4
3 A5
2 A6
1 A7
23 A8
22 A9
19 A10
D0 9
D1 10
D2 11
D3 13
D4 14
D5 15
D6 16
D7 17
W/R EN CS
21 20 18

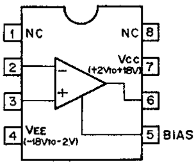
INPUTS			FUNCTION
CS	$\overline{W}$/R	EN	
0	0	X	WRITE
0	1	0	READ
0	1	1	DISABLE (OUTPUT=HI–Z)
1	X	X	DISABLE (OUTPUT=HI–Z)

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI–Z ; HIGH IMPEDANCE

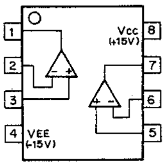
A0–A10 ; ADDRESS INPUTS
$\overline{W}$/R ; WRITE/READ ENABLE
EN ; OUTPUT ENABLE
CS ; CHIP SELECT
D0–D7 ; DATA INPUTS/OUTPUTS


A4 4
A5 3
A6 2
A7 1
A8 23
A9 22
A10 19
ROW SELECT
MEMORY ARRAY
128 ROWS
128 COLUMNS
D0 9
D1 10
D2 11
D3 13
D4 14
D5 15
D6 16
D7 17
INPUT DATA CONT
COLUMN I/O CIRCUIT
COLUMN SELECT
A0 8
A1 7
A2 6
A3 5
CS 18
W/R 21
EN 20

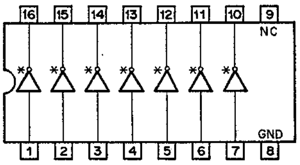
LM3080N (RCA)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1 NC
2
3
4 VEE (−18V to −2V)
8 NC
7 Vcc (+2V to +18V)
6
5 BIAS

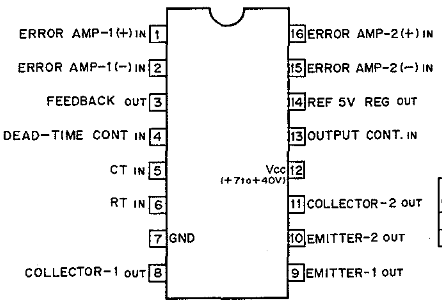
M5220P
OPERATIONAL AMPLIFIER
— TOP VIEW —

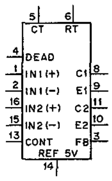

1
2
3
4 VEE (-15V)
8 Vcc (+15V)
7
6
5

M54517P (MITSUBISHI)
INVERTER WITH OPEN-COLLECTOR
(DARLINGTON-CONNECTED TRANSISTOR ARRAY)
— TOP VIEW —


16
15
14
13
12
11
10
9
NC
GND
1
2
3
4
5
6
7
8

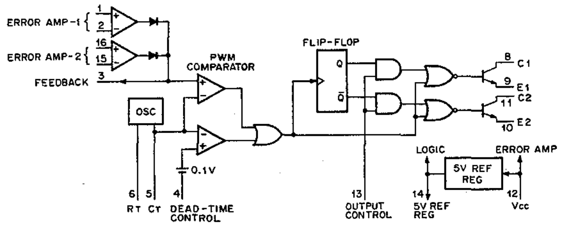
MB3759 (FUJITSU)
TL494CN (TI)
PWM POWER CONTROL
— TOP VIEW —


ERROR AMP-1(+) IN 1
ERROR AMP-1(−) IN 2
FEEDBACK OUT 3
DEAD-TIME CONT IN 4
CT IN 5
RT IN 6
7 GND
COLLECTOR-1 OUT 8
16 ERROR AMP-2(+) IN
15 ERROR AMP-2(−) IN
14 REF 5V REG OUT
13 OUTPUT CONT. IN
12 Vcc (+7to+40V)
11 COLLECTOR-2 OUT
10 EMITTER-2 OUT
9 EMITTER-1 OUT

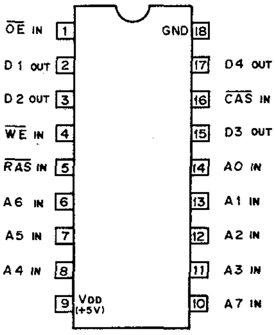

5 CT
6 RT
4 DEAD
1 IN1(+)
2 IN1(−)
16 IN2(+)
15 IN2(−)
13 CONT
C1 8
E1 9
C2 11
E2 10
FB 3
REF 5V 14

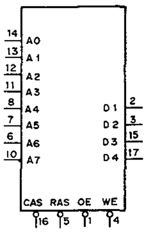
OUTPUT CONTROL	OUTPUT FUNCTION
0	PARALLEL
1	PUSH-PULL

0 ; GROUNDED
1 ; CONNECTED TO PIN 14


ERROR AMP-1 1 2
ERROR AMP-2 16 15
FEEDBACK 3
PWM COMPARATOR
OSC
0.1V
FLIP-FLOP
Q
Q̄
8 C1
9 E1
11 C2
10 E2
LOGIC
ERROR AMP
5V REF REG
6 RT
5 CT
4 DEAD-TIME CONTROL
13 OUTPUT CONTROL
14 5V REF REG
12 Vcc

MB81464-10 (FUJITSU) (ACCESS TIME = 100nS)
MB81464-12 (FUJITSU) (ACCESS TIME = 120nS)
N-MOS 262144-BIT (65536x4) DYNAMIC RAM
— TOP VIEW —

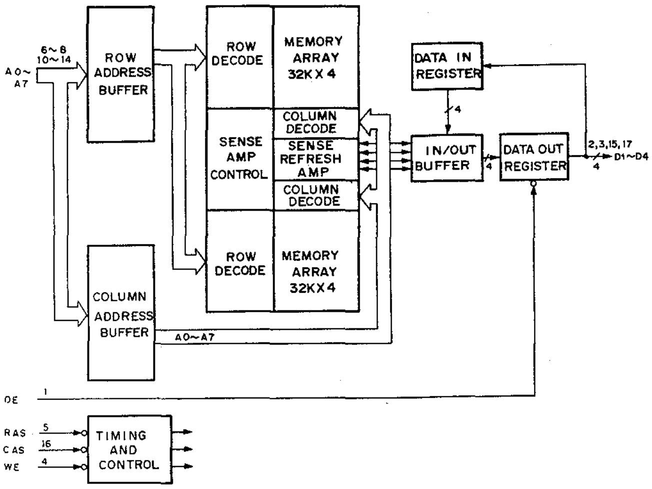

$\overline{OE}$ IN 1
D1 OUT 2
D2 OUT 3
$\overline{WE}$ IN 4
$\overline{RAS}$ IN 5
A6 IN 6
A5 IN 7
A4 IN 8
9 VDD (+5V)
GND 18
17 D4 OUT
16 $\overline{CAS}$ IN
15 D3 OUT
14 A0 IN
13 A1 IN
12 A2 IN
11 A3 IN
10 A7 IN


14 A0
13 A1
12 A2
11 A3
8 A4
7 A5
6 A6
10 A7
D1 2
D2 3
D3 15
D4 17
CAS 16
RAS 5
OE 1
WE 4

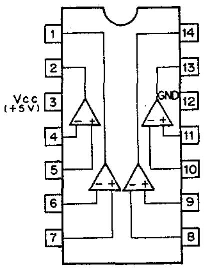
A0~A7 ; ADDRESS INPUT
CAS ; COLUMN ADDRESS STROBE
D1~D4 ; DATA IN/OUT
OE ; OUTPUT ENABLE
RAS ; ROW ADDRESS STROBE
WE ; WRITE ENABLE

MODE	CONTROL		DATA
	WE	OE	D1~D4
—	0	0	X
WRITE	0	1	DATA IN
READ	1	0	DATA OUT
—	1	1	HI-Z

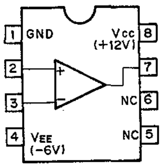
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE


A0~A7
6~8 10~14
ROW ADDRESS BUFFER
ROW DECODE
MEMORY ARRAY 32KX4
SENSE AMP CONTROL
COLUMN DECODE
SENSE REFRESH AMP
COLUMN DECODE
ROW DECODE
MEMORY ARRAY 32KX4
COLUMN ADDRESS BUFFER
A0~A7
DATA IN REGISTER
4
IN/OUT BUFFER
4
DATA OUT REGISTER
2,3,15,17
4
D1~D4
OE 1
RAS 5
CAS 16
WE 4
TIMING AND CONTROL

LM339 (NSC)
MB4204 (FUJITSU)
uPC339C (NEC)
COMPARATOR
— TOP VIEW —

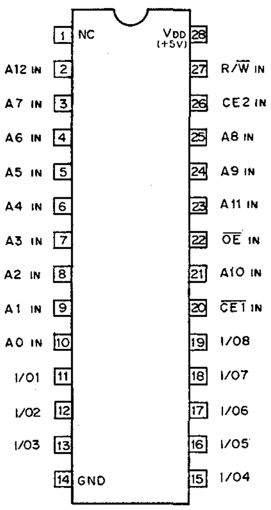

1
2
Vcc (+5V) 3
4
5
6
7
14
13
GND 12
11
10
9
8

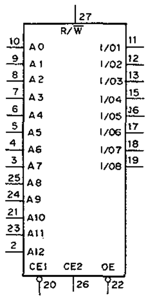
MB4002 (FUJITSU)
HIGH SPEED VOLTAGE COMPARATOR
— TOP VIEW —


1 GND
2
3
4 VEE (−6V)
Vcc (+12V) 8
7
NC 6
NC 5

MB8464A-80L (FUJITSU) (ACCESS TIME = 80 nS)

C-MOS 8192 WORDx8-BIT RAM
— TOP VIEW —

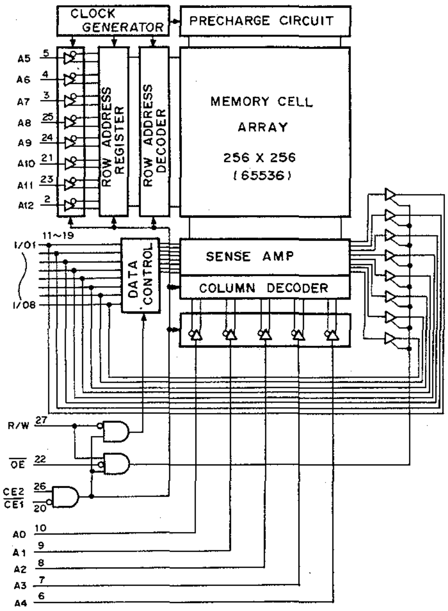

1 NC
VDD (+5V) 28
A12 IN 2
27 R/W IN
A7 IN 3
26 CE2 IN
A6 IN 4
25 A8 IN
A5 IN 5
24 A9 IN
A4 IN 6
23 A11 IN
A3 IN 7
22 OE IN
A2 IN 8
21 A10 IN
A1 IN 9
20 CE1 IN
A0 IN 10
19 I/O8
I/O1 11
18 I/O7
I/O2 12
17 I/O6
I/O3 13
16 I/O5
14 GND
15 I/O4


27
R/W
10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
I/O1 11
I/O2 12
I/O3 13
I/O4 15
I/O5 16
I/O6 17
I/O7 18
I/O8 19
CE1 20
CE2 26
OE 22

A0–12 ; ADDRESS INPUTS
CE1,2 ; CHIP ENABLE INPUTS
OE ; OUTPUT ENABLE INPUT
I/O1–8 ; DATA INPUTS/OUTPUTS
R/W ; READ/WRITE INPUT

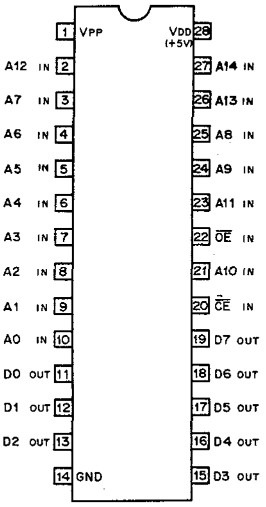
MODE	CE1	CE2	OE	R/W	I/O1~8
READ	0	1	0	1	DATA OUTPUTS
WRITE	0	1	X	0	DATA INPUTS
OUTPUT DESELECT	X	X	1	X	HI-Z
STANDBY	1	X	X	X	HI-Z
	X	0	X	X	HI-Z

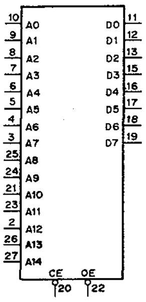
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

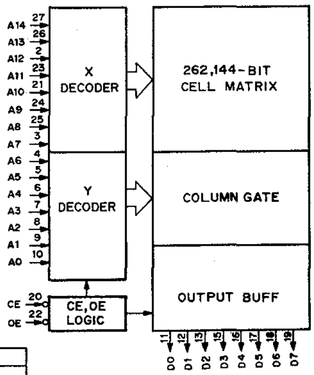

CLOCK GENERATOR
PRECHARGE CIRCUIT
A5 5
A6 4
A7 3
A8 25
A9 24
A10 21
A11 23
A12 2
ROW ADDRESS REGISTER
ROW ADDRESS DECODER
MEMORY CELL ARRAY
256 X 256
(65536)
I/O1
11~19
I/O8
DATA CONTROL
SENSE AMP
COLUMN DECODER
R/W 27
OE 22
CE2 26
CE1 20
A0 10
A1 9
A2 8
A3 7
A4 6

MBM27C256-25 (FUJITSU) (ACCESS TIME = 250 nS)

C-MOS 256K (32K-8) ERASABLE PROM WITH 3-STATE OUTPUTS
— TOP VIEW —


1 VPP
VDD (+5V) 28
A12 IN 2
27 A14 IN
A7 IN 3
26 A13 IN
A6 IN 4
25 A8 IN
A5 IN 5
24 A9 IN
A4 IN 6
23 A11 IN
A3 IN 7
22 OE IN
A2 IN 8
21 A10 IN
A1 IN 9
20 CE IN
A0 IN 10
19 D7 OUT
D0 OUT 11
18 D6 OUT
D1 OUT 12
17 D5 OUT
D2 OUT 13
16 D4 OUT
14 GND
15 D3 OUT


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
26 A13
27 A14
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
CE 20
OE 22


A14 27
A13 26
A12 2
A11 23
A10 21
A9 24
A8 25
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
X DECODER
262,144-BIT CELL MATRIX
Y DECODER
COLUMN GATE
CE 20
OE 22
CE,OE LOGIC
OUTPUT BUFF
11 12 13 15 16 17 18 19
D0 D1 D2 D3 D4 D5 D6 D7

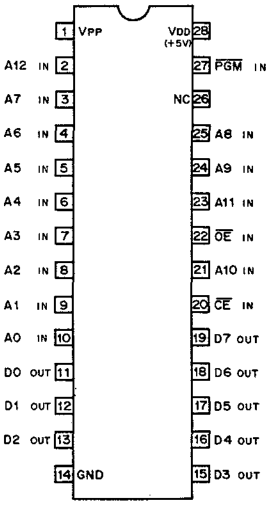
A0–A12 ; ADDRESS
CE ; CHIP ENABLE
D0–D7 ; DATA OUTPUT
OE ; OUTPUT ENABLE
Vpp ; PROGRAM POWER SUPPLY

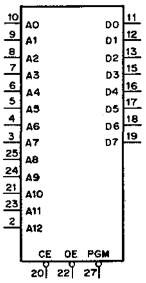
An	CE	OE	Vpp	Dn	FUNCTION
An	0	0	+5V	D OUT	READ
An	0	1	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	HI-Z	STANDBY
An	0	1	+21V	DIN	PGM
An	0	0	+21V	D OUT	PGM VERIFY
X	1	X	+21V	HI-Z	PGM INH

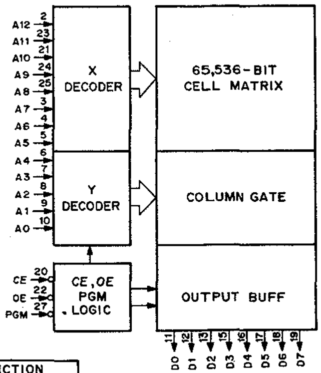
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

MBM27C64-25 (FUJITSU) (ACCESS TIME = 250 nS)

C-MOS 64K (8K-8) ERASABLE PROM WITH 3-STATE OUTPUTS
— TOP VIEW —


1 VPP
VDD (+5V) 28
A12 IN 2
27 PGM IN
A7 IN 3
NC 26
A6 IN 4
25 A8 IN
A5 IN 5
24 A9 IN
A4 IN 6
23 A11 IN
A3 IN 7
22 OE IN
A2 IN 8
21 A10 IN
A1 IN 9
20 CE IN
A0 IN 10
19 D7 OUT
D0 OUT 11
18 D6 OUT
D1 OUT 12
17 D5 OUT
D2 OUT 13
16 D4 OUT
14 GND
15 D3 OUT


10 A0
9 A1
8 A2
7 A3
6 A4
5 A5
4 A6
3 A7
25 A8
24 A9
21 A10
23 A11
2 A12
D0 11
D1 12
D2 13
D3 15
D4 16
D5 17
D6 18
D7 19
CE OE PGM
20 22 27

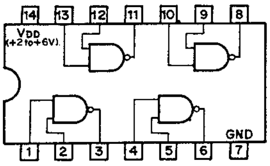

A12 2
A11 23
A10 21
A9 24
A8 25
A7 3
A6 4
A5 5
A4 6
A3 7
A2 8
A1 9
A0 10
X DECODER
65,536-BIT CELL MATRIX
Y DECODER
COLUMN GATE
CE 20
OE 22
PGM 27
CE,OE PGM LOGIC
OUTPUT BUFF
11 12 13 15 16 17 18 19
D0 D1 D2 D3 D4 D5 D6 D7

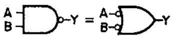
A0–A12 ; ADDRESS
CE ; CHIP ENABLE
D0–D7 ; DATA OUTPUT
OE ; OUTPUT ENABLE
PGM ; PROGRAM ENABLE
VPP ; PROGRAM VOLTAGE

An	CE	OE	PGM	Vpp	Dn	FUNCTION
An	0	0	1	+5V	D OUT	READ
An	0	1	1	+5V	HI-Z	OUTPUT DISABLE
An	0	0	0	+5V	HI-Z	OUTPUT DISABLE
X	1	X	X	+5V	HI-Z	STANDBY
An	0	X	⊔	+21V	DIN	PGM
An	0	0	1	+21V	D OUT	PGM VERIFY
X	1	X	X	+21V	HI-Z	PGM INH

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

MC74HC00N (MOTOROLA)
SN74HC00N (TI)
TC74HC00P (TOSHIBA)
C-MOS 2-INPUT NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

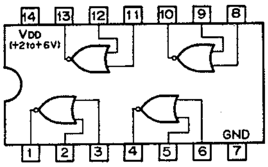


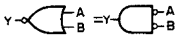
$Y=\overline{A\cdot B}=\overline{A}+\overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

MC74HC02N (MOTOROLA)
SN74HC02N (TI)
TC74HC02P (TOSHIBA)
C MOS 2-INPUT POSITIVE-NOR GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

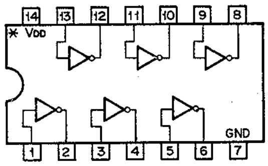


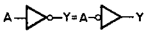
$Y=\overline{A+B}=\overline{A}\cdot\overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0: LOW LEVEL
1; HIGH LEVEL

MC74HC04N (MOTOROLA)
SN74HC04N (TI)
TC74HC04P (TOSHIBA)
C-MOS INVERTER
— TOP VIEW —


14
13
12
11
10
9
8
* VDD
GND
1
2
3
4
5
6
7



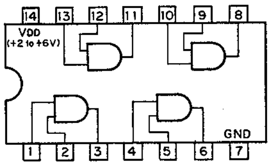
$Y=\overline{A}$

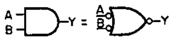
A	Y
0	1
1	0

0: LOW LEVEL
1: HIGH LEVEL

* VDD HC, HCU; +2to+6V
HCT; +5V

MC74HC08N (MOTOROLA)
SN74HC08N (TI)
TC74HC08P (TOSHIBA)
C-MOS 2-INPUT AND GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2 to +6V)
GND
1
2
3
4
5
6
7

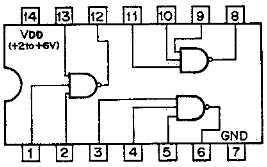


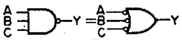
$Y=A\cdot B=\overline{\overline{A}+\overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

MC74HC10N (MOTOROLA)
SN74HC10N (TI)
TC74HC10P (TOSHIBA)
C-MOS 3-INPUT NAND GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

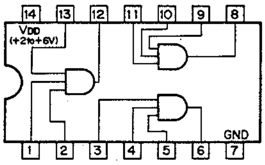


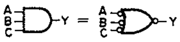
$Y=\overline{ABC}=\overline{A}+\overline{B}+\overline{C}$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

MC74HC11N (MOTOROLA)
SN74HC11N (TI)
TC74HC11P (TOSHIBA)
C-MOS 3-INPUT POSITIVE-AND GATE


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

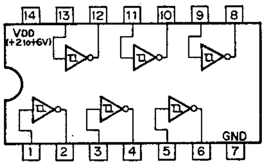


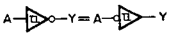
$Y=A\cdot B\cdot C=\overline{\overline{A}+\overline{B}+\overline{C}}$

A	B	C	Y
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

0; LOW LEVEL
1; HIGH LEVEL

MC74HC14N (MOTOROLA)
SN74HC14N (TI)
TC74HC14P (TOSHIBA)
C-MOS SCHMITT TRIGGER INVERTER
— TOP VIEW —

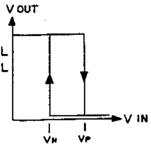

14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7



$Y=\overline{A}$

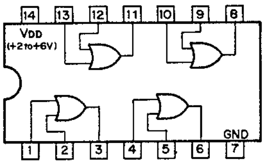
A	Y
0	1
1	0

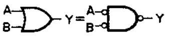
0; LOW LEVEL
1; HIGH LEVEL



VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

MC74HC32N (MOTOROLA)
SN74HC32N (TI)
TC74HC32P (TOSHIBA)
C-MOS 2-INPUT OR GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

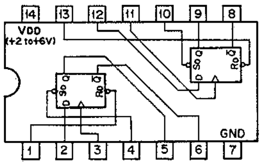


$Y=A+B=\overline{\overline{A}\cdot\overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

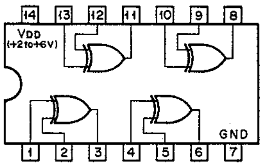
MC74HC74N (MOTOROLA)
SN74HC74N (TI)
TC74HC74P (TOSHIBA)
C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET
— TOP VIEW —

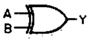

14
13
12
11
10
9
8
VDD (+2 to +6V)
GND
1
2
3
4
5
6
7
SD
RD
D
Q

INPUTS				OUTPUTS	
SD	RD	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1*	1*
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
1*; NONSTABLE

MC74HC86N (MOTOROLA)
SN74HC86N (TI)
TC74HC86P (TOSHIBA)
C-MOS EXCLUSIVE OR GATE
— TOP VIEW —


14
13
12
11
10
9
8
VDD (+2to+6V)
GND
1
2
3
4
5
6
7

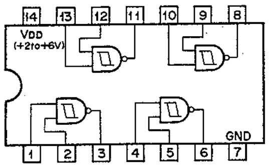


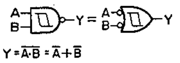
$Y=\overline{A}\cdot B+A\cdot\overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

MC74HC132N (MOTOROLA)
TC74HC132P (TOSHIBA)
C-MOS 2-INPUT NAND SCHMITT TRIGGER
— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7

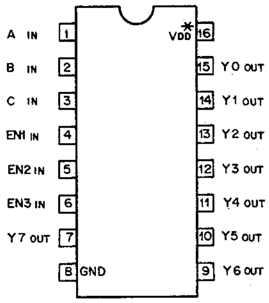


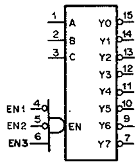
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

MC74HC138N (MOTOROLA)
SN74HC138N (TI)
TC74HC138P (TOSHIBA)
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
— TOP VIEW —


A IN 1
B IN 2
C IN 3
EN1 IN 4
EN2 IN 5
EN3 IN 6
Y7 OUT 7
8 GND
VDD*
16
15 Y0 OUT
14 Y1 OUT
13 Y2 OUT
12 Y3 OUT
11 Y4 OUT
10 Y5 OUT
9 Y6 OUT


1 A
2 B
3 C
EN1 4
EN2 5
EN3 6
EN
Y0 15
Y1 14
Y2 13
Y3 12
Y4 11
Y5 10
Y6 9
Y7 7

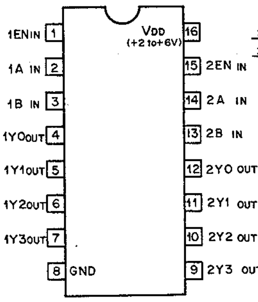
* VDD HC ; +2 to +6V
HCT ; +5V

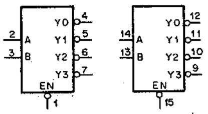
INPUT				OUTPUT							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

$EN = \overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC139N (MOTOROLA)
SN74HC139N (TI)
TC74HC139P (TOSHIBA)
C-MOS 1-OF-4 DECODER/DEMULTIPLEXER
— TOP VIEW —

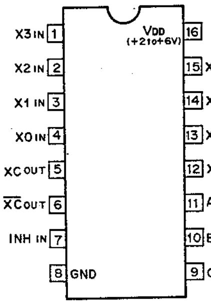

1ENIN 1
1A IN 2
1B IN 3
1Y0OUT 4
1Y1OUT 5
1Y2OUT 6
1Y3OUT 7
8 GND
VDD
(+2to+6V)
16
15 2EN IN
14 2A IN
13 2B IN
12 2Y0 OUT
11 2Y1 OUT
10 2Y2 OUT
9 2Y3 OUT

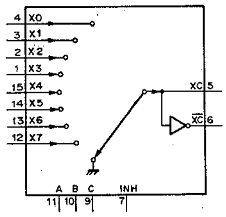

2 A
3 B
Y0 4
Y1 5
Y2 6
Y3 7
EN
1
14 A
13 B
Y0 12
Y1 11
Y2 10
Y3 9
EN
15

INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC151N (MOTOROLA)
SN74HC151N (TI)
TC74HC151P (TOSHIBA)
C-MOS 8-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

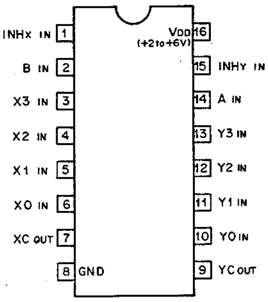

X3IN 1
X2IN 2
X1IN 3
X0IN 4
XC OUT 5
XC OUT 6
INH IN 7
8 GND
VDD
(+2to+6V)
16
15 X4 IN
14 X5 IN
13 X6 IN
12 X7 IN
11 A IN
10 B IN
9 C IN

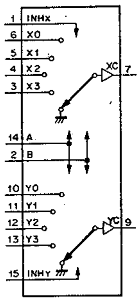

4 X0
3 X1
2 X2
1 X3
15 X4
14 X5
13 X6
12 X7
XC 5
XC 6
A B C INH
11 10 9 7

CONTROL INPUT				ON CHANNEL
INH	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC153N (MOTOROLA)
SN74HC153N (TI)
TC74HC153P (TOSHIBA)
C-MOS 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

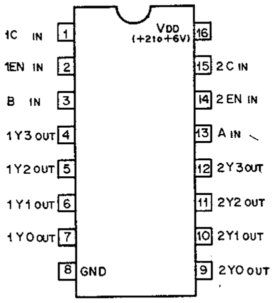

INHx IN 1
B IN 2
X3 IN 3
X2 IN 4
X1 IN 5
X0 IN 6
XC OUT 7
8 GND
VDD
(+2to+6V)
16
15 INHY IN
14 A IN
13 Y3 IN
12 Y2 IN
11 Y1 IN
10 Y0 IN
9 YC OUT


1 INHx
6 X0
5 X1
4 X2
3 X3
XC 7
14 A
2 B
10 Y0
11 Y1
12 Y2
13 Y3
YC 9
15 INHY

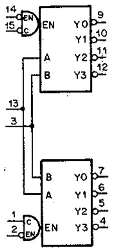
CONTROL IN			ON CHANNEL
INH	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC155P (TOSHIBA)
TC74HC155AP (TOSHIBA)
TTL DUAL 2-TO-4-LINE DECODER/3-TO-8-LINE DECODER
- TOP VIEW -


1C IN 1
1EN IN 2
B IN 3
1Y3 OUT 4
1Y2 OUT 5
1Y1 OUT 6
1Y0 OUT 7
8 GND
VDD
(+2to+6V)
16
15 2C IN
14 2EN IN
13 A IN
12 2Y3 OUT
11 2Y2 OUT
10 2Y1 OUT
9 2Y0 OUT

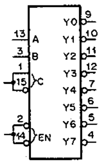
DUAL 2-TO-4-LINE DECODER


14 EN
15 C
EN
A
B
Y0 9
Y1 10
Y2 11
Y3 12
13
3
B
A
Y0 7
Y1 6
Y2 5
Y3 4
1 C
2 EN
EN

INPUTS				OUTPUTS			
EN	C	B	A	Y3	Y2	Y1	Y0
0	0	0	0	1	1	1	0
0	0	0	1	1	1	0	1
0	0	1	0	1	0	1	1
0	0	1	1	0	1	1	1
X	1	X	X	1	1	1	1
1	X	X	X	1	1	1	1

EN	C	B	A	Y3	Y2	Y1	Y0
0	1	0	0	1	1	1	0
0	1	0	1	1	1	0	1
0	1	1	0	1	0	1	1
0	1	1	1	0	1	1	1
X	0	X	X	1	1	1	1
1	X	X	X	1	1	1	1

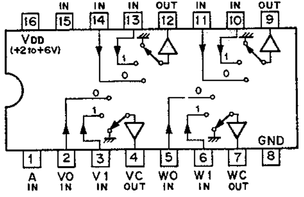
3-TO-8-LINE DECODER

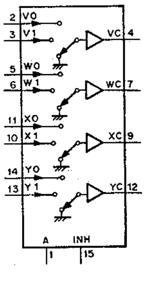

13 A
3 B
1 15 C
2 14 EN
Y0 9
Y1 10
Y2 11
Y3 12
Y4 7
Y5 6
Y6 5
Y7 4

INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	0	0	0	1	1	1	1	1	1	1	0
0	0	0	1	1	1	1	1	1	1	0	1
0	0	1	0	1	1	1	1	1	0	1	1
0	0	1	1	1	1	1	1	0	1	1	1
0	1	0	0	1	1	1	0	1	1	1	1
0	1	0	1	1	1	0	1	1	1	1	1
0	1	1	0	1	0	1	1	1	1	1	1
0	1	1	1	0	1	1	1	1	1	1	1
1	X	X	X	1	1	1	1	1	1	1	1

0;LOW LEVEL 1;HIGH LEVEL X;DON'T CARE

MC74HC157N (MOTOROLA)
SN74HC157N (TI)
TC74HC157P (TOSHIBA)
C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

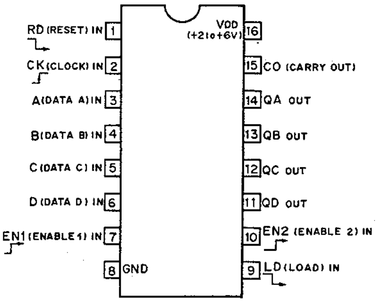

INH IN
Y0 IN
Y1 IN
YC OUT
X0 IN
X1 IN
XC OUT
16
15
14
13
12
11
10
9
VDD
(+2to+6V)
GND
1
2
3
4
5
6
7
8
A IN
V0 IN
V1 IN
VC OUT
W0 IN
W1 IN
WC OUT

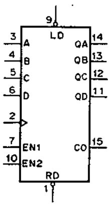

2 V0
3 V1
VC 4
5 W0
6 W1
WC 7
11 X0
10 X1
XC 9
14 Y0
13 Y1
YC 12
A INH
1 15

CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC161N (MOTOROLA)
SN74HC161N (TI)
TC74HC161P (TOSHIBA)
C-MOS SYNCHRONOUS PRESETTABLE 4-BIT BINARY COUNTER
— TOP VIEW —


RD (RESET) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
VDD (+2 to +6V) 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN
9 LD (LOAD) IN


9
LD
3 A
4 B
5 C
6 D
2
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

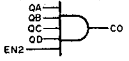
CONTROL INPUT				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

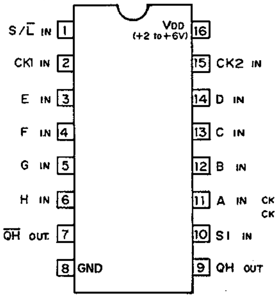
COUNT	OUTPUT			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

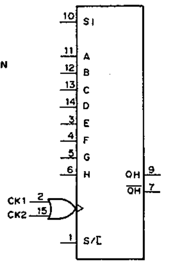
CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

MC74HC165N (MOTOROLA)
SN74HC165N (TI)
TC74HC165P (TOSHIBA)
C-MOS SERIAL- OR PARALLEL-INPUT SHIFT REGISTER
— TOP VIEW —

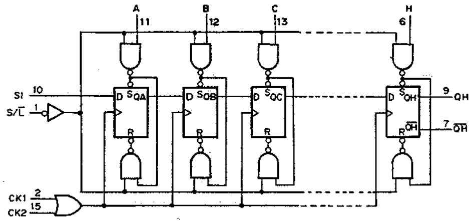

S/L̄ IN 1
CKI IN 2
E IN 3
F IN 4
G IN 5
H IN 6
Q̄H OUT 7
8 GND
VDD (+2 to +6V) 16
15 CK2 IN
14 D IN
13 C IN
12 B IN
11 A IN
10 SI IN
9 QH OUT


10 SI
11 A
12 B
13 C
14 D
3 E
4 F
5 G
6 H
CK1 2
CK2 15
1 S/L̄
QH 9
Q̄H 7

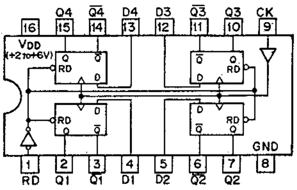
SI ; SERIAL DATA IN
A–H ; PARALLEL DATA IN
CK1,CK2; CLOCK IN (↑)
S/L̄ ; SHIFT/LOAD IN
QH Q̄H ; 8th BIT OUT (COMPLEMENTALY)

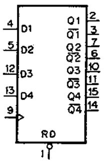
INPUTS				CONTENTS		OUTPUT	OPERATION
S/L̄	CKI+CK2	SI	A······H	QA	QB····	QH	
0	X	X	a······h	a	b·····	h	PARALLEL LOAD
1	↑	0	X	0	QAo···	QGo	RIGHT SHIFT
1	↑	1	X	1	QAo···	QGo	
1	↓	X	X	QAo	QBo···	QHo	NO COUNT
1	0	X	X	QAo	QBo···	QHo	
1	1	X	X	QAo	QBo···	QHo	

0 ; LOW LEVEL 1 ; HIGH LEVEL X ; DON'T CARE
a – h ; LEVEL OF INPUTS A–H
QAo–QHo ; LEVEL OF QA–QH BEFORE THE INDICATED INPUT CONDITIONS WERE ESTABLISHED


A
11
B
12
C
13
H
6
SI 10
S/L̄ 1
D S QA
D S QB
D S QC
D S QH
R
9 QH
7 Q̄H
CK1 2
CK2 15

MC74HC175N (MOTOROLA)
SN74HC175N (TI)
TC74HC175P (TOSHIBA)
C-MOS D-TYPE FLIP-FLOP WITH RESET
— TOP VIEW —

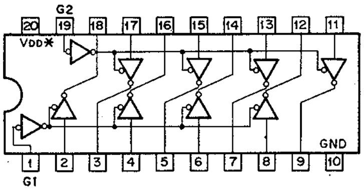

Q4 Q̄4 D4 D3 Q̄3 Q3 CK
16 15 14 13 12 11 10 9
VDD (+2 to +6V)
RD
GND
1 2 3 4 5 6 7 8
RD Q1 Q̄1 D1 D2 Q̄2 Q2

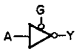

4 D1
5 D2
12 D3
13 D4
9
RD
1
Q1 2
Q̄1 3
Q2 7
Q̄2 6
Q3 10
Q̄3 11
Q4 15
Q̄4 14

RD	CK	D	Q	Q̄
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Qo	Q̄o

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC74HC240N (MOTOROLA)
SN74HC240N (TI)
TC74HCT240P (TOSHIBA)
C-MOS 3-STATE INVERTER/LINE DRIVER
— TOP VIEW —

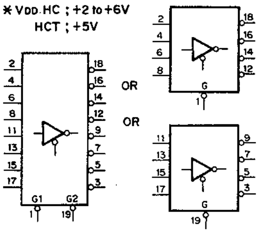

G2
20 19 18 17 16 15 14 13 12 11
VDD*
GND
1 2 3 4 5 6 7 8 9 10
G1



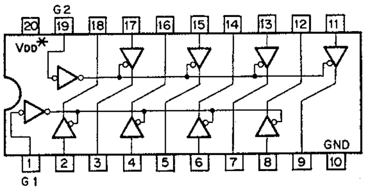
G	A	Y
0	0	1
0	1	0
1	X	HI-Z

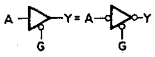
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

* VDD HC ; +2 to +6V
HCT ; +5V


2 4 6 8 11 13 15 17
18 16 14 12 9 7 5 3
G1 G2
1 19
OR
OR
G
1
G
19

MC74HC244N (MOTOROLA)
SN74HC244N (TI)
TC74HC244P (TOSHIBA)
C-MOS BUS BUFFER WITH 3-STATE OUTPUT
— TOP VIEW —

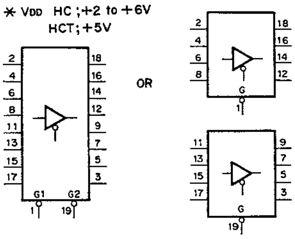

G2
20 19 18 17 16 15 14 13 12 11
VDD*
GND
1 2 3 4 5 6 7 8 9 10
G1



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

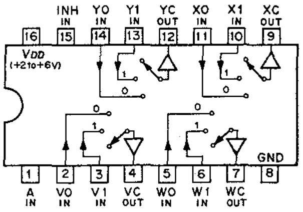
* VDD HC ; +2 to +6V
HCT ; +5V

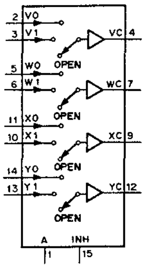

2 4 6 8 11 13 15 17
18 16 14 12 9 7 5 3
G1 G2
1 19
OR
G
1
G
19

MC74HC257N (MOTOROLA)
SN74HC257N (TI)
TC74HC257P (TOSHIBA)

C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER

— TOP VIEW —


INH IN
YO IN
Y1 IN
YC OUT
XO IN
X1 IN
XC OUT
16
15
14
13
12
11
10
9
VDD (+2 to +6V)
GND
1
2
3
4
5
6
7
8
A IN
VO IN
V1 IN
VC OUT
WO IN
W1 IN
WC OUT


2 VO
3 V1
VC 4
OPEN
5 WO
6 W1
WC 7
OPEN
11 XO
10 X1
XC 9
OPEN
14 YO
13 Y1
YC 12
OPEN
A
INH
1
15

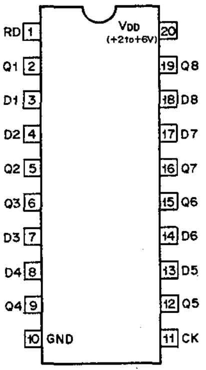
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

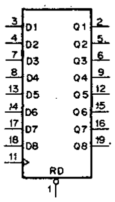
CONT. IN		ON CHANNEL
INH	A	
0	0	0
0	1	1
1	X	OPEN

MC74HC273N (MOTOROLA)
SN74HC273N (TI)
TC74HC273P (TOSHIBA)

C-MOS D-TYPE FLIP-FLOP WITH RESET

— TOP VIEW —

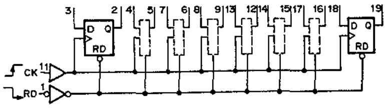

RD 1
Q1 2
D1 3
D2 4
Q2 5
Q3 6
D3 7
D4 8
Q4 9
10 GND
VDD (+2 to +6V)
20
19 Q8
18 D8
17 D7
16 Q7
15 Q6
14 D6
13 D5
12 Q5
11 CK


3 D1
4 D2
7 D3
8 D4
13 D5
14 D6
17 D7
18 D8
11
Q1 2
Q2 5
Q3 6
Q4 9
Q5 12
Q6 15
Q7 16
Q8 19
RD
1

EACH FLIP-FLOP

INPUT			OUT
RD	CK	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Qo

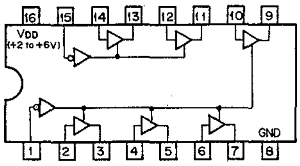
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D
Q
RD
CK 11
RD 1

MC74HC367N (MOTOROLA)
SN74HC367N (TI)
TC74HC367P (TOSHIBA)

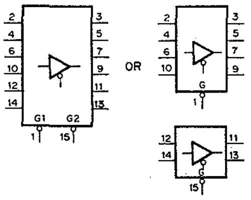
C-MOS BUS DRIVER WITH 3-STATE OUTPUTS

— TOP VIEW —


16
15
14
13
12
11
10
9
VDD (+2 to +6V)
GND
1
2
3
4
5
6
7
8

G	A	Y
0	0	0
0	1	1
1	X	HI-Z

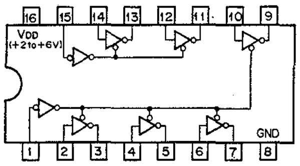
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE


2
4
6
10
12
14
3
5
7
9
11
13
G1
G2
1
15
OR
2
4
6
10
3
5
7
9
G
1
12
14
11
13
G
15

MC74HC368N (MOTOROLA)
SN74HC368N (TI)
TC74HC368P (TOSHIBA)

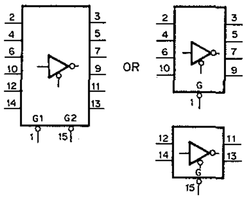
C-MOS BUS INVERTER WITH 3-STATE OUTPUTS

— TOP VIEW —


16
15
14
13
12
11
10
9
VDD (+2 to +6V)
GND
1
2
3
4
5
6
7
8

G	A	Y
0	0	1
0	1	0
1	X	HI-Z

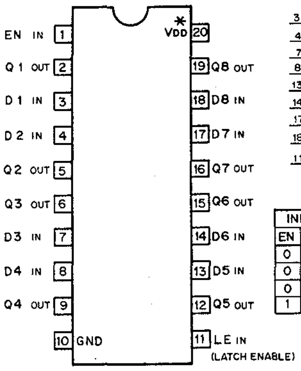
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

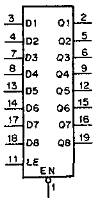

2
4
6
10
12
14
3
5
7
9
11
13
G1
G2
1
15
OR
2
4
6
10
3
5
7
9
G
1
12
14
11
13
G
15

MC74HC373N (MOTOROLA)
SN74HC373N (TI)
TC74HC373P (TOSHIBA)

C-MOS 3-STATE OUTPUTS OCTAL LATCHES

— TOP VIEW —

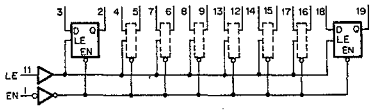

EN IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
Q3 OUT 6
D3 IN 7
D4 IN 8
Q4 OUT 9
10 GND
* VDD 20
19 Q8 OUT
18 D8 IN
17 D7 IN
16 Q7 OUT
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 LE IN
(LATCH ENABLE)


3 D1
4 D2
7 D3
8 D4
13 D5
14 D6
17 D7
18 D8
11 LE
EN
1
Q1 2
Q2 5
Q3 6
Q4 9
Q5 12
Q6 15
Q7 16
Q8 19

INPUTS			OUT
EN	D	LE	Q
0	1	1	1
0	0	1	0
0	X	0	Qo
1	X	X	HI-Z

HI-Z;
HIGH IMPEDANCE
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

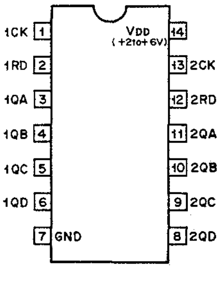
* VDD HC; +2 to +6V
HCT; +5V

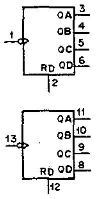

3
2
4
5
7
6
8
9
13
12
14
15
17
16
18
19
D
Q
LE
EN
LE 11
EN 1

MC74HC393N (MOTOROLA)
SN74HC393N (TI)
TC74HC393P (TOSHIBA)

C-MOS 4-BIT BINARY COUNTER

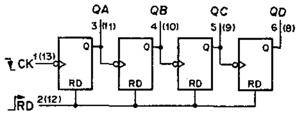
— TOP VIEW —


1CK 1
1RD 2
1QA 3
1QB 4
1QC 5
1QD 6
7 GND
VDD (+2 to +6V)
14
13 2CK
12 2RD
11 2QA
10 2QB
9 2QC
8 2QD


1
QA 3
QB 4
QC 5
RD QD 6
2
13
QA 11
QB 10
QC 9
RD QD 8
12

COUNT SEQUENCE

COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1


QA
QB
QC
QD
3 (11)
4 (10)
5 (9)
6 (8)
CK 1(13)
RD 2(12)
Q
RD

RESET/COUNT FUNCTION

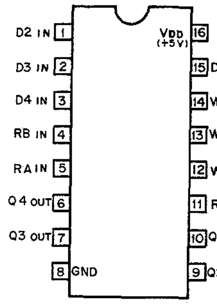
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

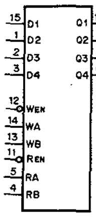
0; LOW LEVEL
1; HIGH LEVEL

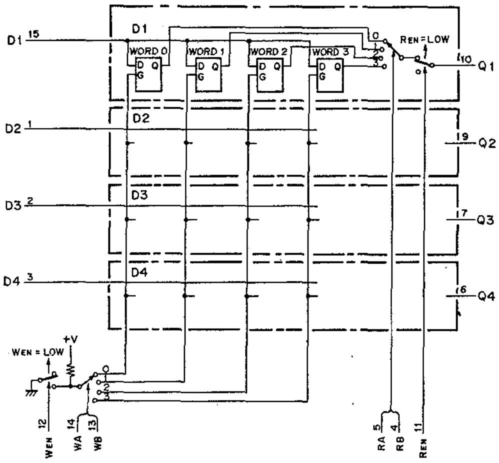
TC74HC670P (TOSHIBA)

C-MOS 4-BY-4 REGISTOR FILES WITH 3-STATE OUTPUT

— TOP VIEW —


D2 IN 1
D3 IN 2
D4 IN 3
RB IN 4
RA IN 5
Q4 OUT 6
Q3 OUT 7
8 GND
VDD (+5V) 16
15 D1 IN
14 WA IN
13 WB IN
12 WEN IN
11 REN IN
10 Q1 OUT
9 Q2 OUT

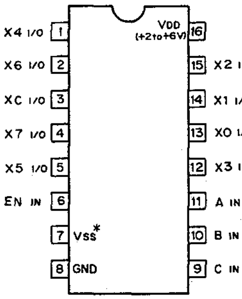

15 D1
1 D2
2 D3
3 D4
12 WEN
14 WA
13 WB
11 REN
5 RA
4 RB
Q1 10
Q2 9
Q3 7
Q4 6


D1 15
D1
WORD 0
WORD 1
WORD 2
WORD 3
D Q G
REN=LOW
10 Q1
D2 1
D2
19 Q2
D3 2
D3
17 Q3
D4 3
D4
16 Q4
+V
WEN = LOW
12 WEN
14 WA
13 WB
5 RA
4 RB
11 REN

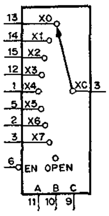
MC74HC4051N (MOTOROLA)

C-MOS 8-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER

— TOP VIEW —


X4 I/O 1
X6 I/O 2
XC I/O 3
X7 I/O 4
X5 I/O 5
EN IN 6
7 VSS*
8 GND
VDD (+2 to +6V) 16
15 X2 I/O
14 X1 I/O
13 XO I/O
12 X3 I/O
11 A IN
10 B IN
9 C IN

*VDD - VSS = +3 to +12V


13 XO
14 X1
15 X2
12 X3
1 X4
5 X5
2 X6
4 X7
XC 3
6 EN
OPEN
A B C
11 10 9

CONTROL INPUTS				SELECTED CHANNEL
EN	SELECT			
	C	B	A	
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	OPEN

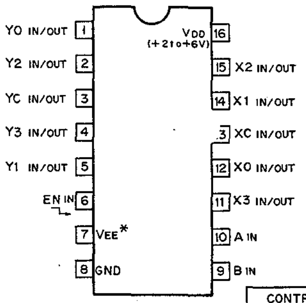
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

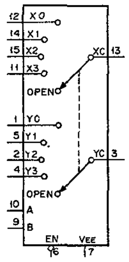
XO to X7;	ANALOG INPUTS/OUTPUTS
XC;	COMMON INPUT/OUTPUT
A,B,C;	CHANNEL SELECT INPUT
EN;	ENABLE INPUT

MC74HC4052N (MOTOROLA)

C-MOS 4-CHANNEL MULTIPLEXER/DEMULTIPLEXER

— TOP VIEW —


YO IN/OUT 1
Y2 IN/OUT 2
YC IN/OUT 3
Y3 IN/OUT 4
Y1 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD (+2 to +6V) 16
15 X2 IN/OUT
14 X1 IN/OUT
3 XC IN/OUT
12 XO IN/OUT
11 X3 IN/OUT
10 A IN
9 B IN


12 XO
14 X1
15 X2
11 X3
OPEN
XC 13
1 YO
5 Y1
2 Y2
4 Y3
OPEN
YC 3
10 A
9 B
EN 6
VEE 7

VEE*; VDD - VEE = +3 to +12 V

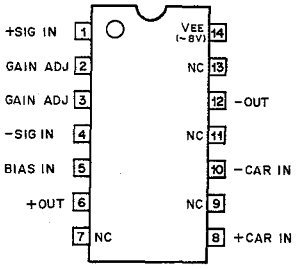
CONTROL INPUTS			"ON" CHANNEL
EN	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	OPEN

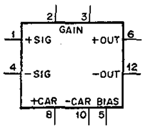
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

MC1496P (MOTOROLA)

BALANCED MODULATOR/DEMODULATOR

— TOP VIEW —

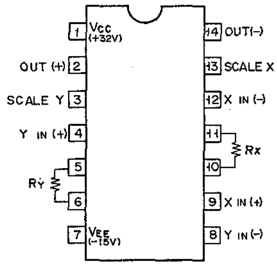

+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
-SIG IN 4
BIAS IN 5
+OUT 6
7 NC
VEE (-8V) 14
NC 13
12 -OUT
NC 11
10 -CAR IN
NC 9
8 +CAR IN

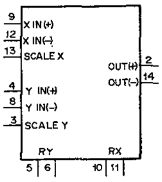

2 3 GAIN
1 +SIG
4 -SIG
+OUT 6
-OUT 12
+CAR -CAR BIAS
8 10 5

MC1595L (MOTOROLA)

LINEAR MULTIPLIER

— TOP VIEW —

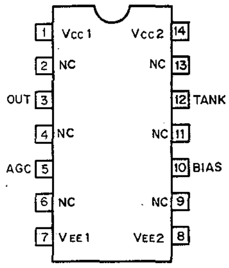

1 Vcc (+32V)
OUT (+) 2
SCALE Y 3
Y IN (+) 4
RY
5
6
7 VEE (-15V)
14 OUT(-)
13 SCALE X
12 X IN (-)
11
Rx
10
9 X IN (+)
8 Y IN (-)

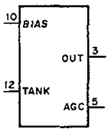

9 X IN(+)
12 X IN(-)
13 SCALE X
4 Y IN(+)
8 Y IN(-)
3 SCALE Y
OUT(+) 2
OUT(-) 14
RY 5 6
RX 10 11

MC1648P (MOTOROLA)

ECL VOLTAGE CONTROLLED OSCILLATOR

— TOP VIEW —


1 Vcc1
2 NC
OUT 3
4 NC
AGC 5
6 NC
7 VEE1
Vcc2 14
NC 13
12 TANK
NC 11
10 BIAS
NC 9
VEE2 8

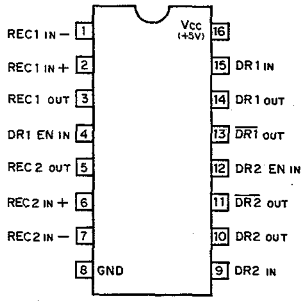

10 BIAS
12 TANK
OUT 3
AGC 5

Supply Voltage	Supply Pins	GND Pins
+5.0Vdc	1,14	7,8
-5.2Vdc	7,8	1,14

MC34051P (MOTOROLA)

RS-422 DRIVER/RECEIVER

— TOP VIEW —

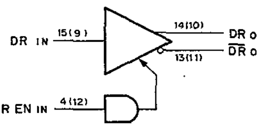

REC1 IN - 1
REC1 IN + 2
REC1 OUT 3
DR1 EN IN 4
REC2 OUT 5
REC2 IN + 6
REC2 IN - 7
8 GND
Vcc (+5V) 16
15 DR1 IN
14 DR1 OUT
13 DR1 OUT
12 DR2 EN IN
11 DR2 OUT
10 DR2 OUT
9 DR2 IN

DR EN	MODE
0	DISABLE
1	ENABLE

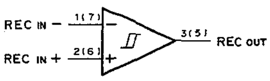
0 ; LOW LEVEL
1 ; HIGH LEVEL

DR ; DRIVER
DR EN ; DRIVER ENABLE
REC ; RECEIVER

DRIVER CIRCUIT


DR IN 15(9)
14(10) DR OUT
13(11) DR OUT
DR EN IN 4(12)

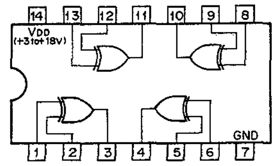
RECEIVER CIRCUIT

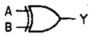

REC IN - 1(7)
REC IN + 2(6)
3(5) REC OUT

MC14070BCP (MOTOROLA)

C-MOS EXCLUSIVE OR GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+3 to +18V)
GND
1
2
3
4
5
6
7



$Y = \overline{A} \cdot B + A \cdot \overline{B}$

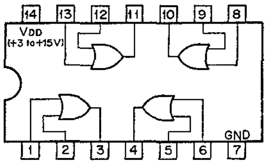
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

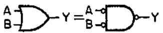
0; LOW LEVEL
1; HIGH LEVEL

HD14071BP (HITACHI)
MC14071BCP (MOTOROLA)
TC4071BP (TOSHIBA)

C-MOS 2-INPUT OR GATE

— TOP VIEW —


14
13
12
11
10
9
8
VDD
(+3 to +15V)
GND
1
2
3
4
5
6
7



$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

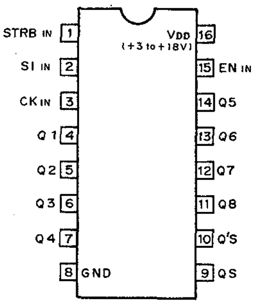
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

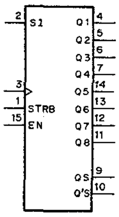
0; LOW LEVEL
1; HIGH LEVEL

MC14094BCP (MOTOROLA)
MSM4094RS (OKI)

C-MOS 8-STAGE SHIFT-AND-STORE BUS REGISTER

— TOP VIEW —


STRB IN 1
SI IN 2
CK IN 3
Q1 4
Q2 5
Q3 6
Q4 7
8 GND
VDD (+3 to +18V) 16
15 EN IN
14 Q5
13 Q6
12 Q7
11 Q8
10 Q'S
9 QS


2
SI
3
1
STRB
15
EN
Q1 4
Q2 5
Q3 6
Q4 7
Q5 14
Q6 13
Q7 12
Q8 11
QS 9
Q'S 10

SI ; SERIAL DATA INPUT
CK ; CLOCK INPUT
STRB ; STROBE INPUT
EN ; OUTPUT ENABLE INPUT
Q1~Q8 ; PARALLEL DATA OUTPUTS
QS , Q'S ; SERIAL DATA OUTPUTS

INPUTS				PARALLEL OUT		SERIAL OUT	
CK	EN	STRB	SI	Q1	Qn	QS	Q'S
↑	0	X	X	HI-Z	HI-Z	Q7	NC
↓	0	X	X	HI-Z	HI-Z	NC	Q7
↑	1	0	X	NC	NC	Q7	NC
↑	1	1	0	0	Qn-1	Q7	NC
↑	1	1	1	1	Qn-1	Q7	NC
↓	1	1	1	NC	NC	NC	Q7

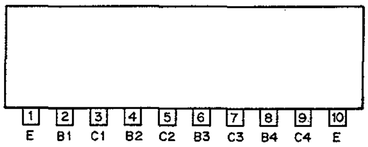
1 ; HIGH
0 ; LOW
X ; DON'T CARE

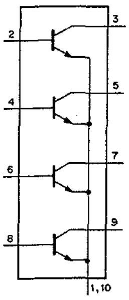
HI-Z ; HIGH IMPEDANCE
NC ; NO CHANGE

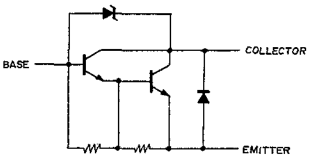
MP4001 (TOSHIBA)

DARLINGTON TRANSISTOR ARRAY

— PRINTED SIDE VIEW —


1
2
3
4
5
6
7
8
9
10
E
B1
C1
B2
C2
B3
C3
B4
C4
E


2
3
4
5
6
7
8
9
1,10

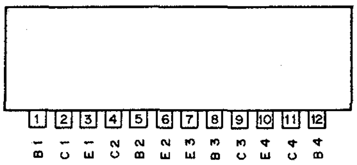

BASE
COLLECTOR
EMITTER

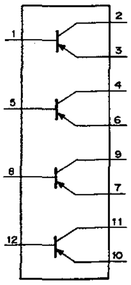
1 , 10 EMITTER
2 , 4 , 6 , 8 BASE
3 , 5 , 7 , 9 COLLECTOR

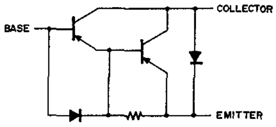
MP4504 (TOSHIBA)

DARLINGTON TRANSISTOR ARRAY

— PRINTED SIDE VIEW —


1
2
3
4
5
6
7
8
9
10
11
12
B1
C1
E1
C2
B2
E2
E3
B3
C3
E4
C4
B4

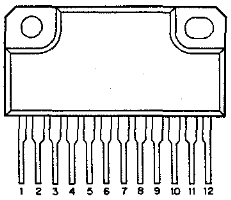

1
2
3
5
4
6
8
9
7
12
11
10

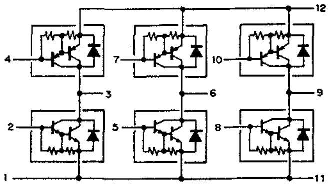

BASE
COLLECTOR
EMITTER

MP6901 (TOSHIBA)

POWER TRANSISTOR ARRAY

— PRINTED SIDE VIEW —

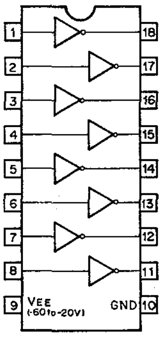

1
2
3
4
5
6
7
8
9
10
11
12


12
4
7
10
3
6
9
2
5
8
1
11

MSL915RS (OKI)

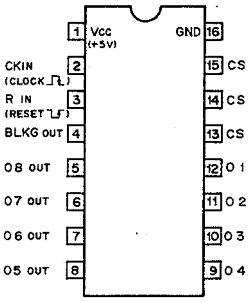
VACUUM FLUORESCENT DISPLAY DRIVER

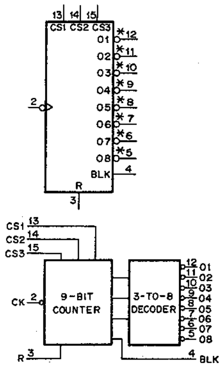
— TOP VIEW —


1
2
3
4
5
6
7
8
9
18
17
16
15
14
13
12
11
10
VEE
(-60 to -20V)
GND

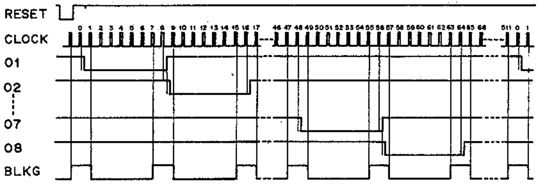
MSL9510RS (OKI)

8-BIT DIGIT SCAN COUNTER/DECODER
FOR FLUORESCENT DISPLAY (OPEN COLLECTOR)
— TOP VIEW —


1 Vcc (+5V)
GND 16
CKIN (CLOCK) 2
R IN (RESET) 3
BLKG OUT 4
08 OUT 5
07 OUT 6
06 OUT 7
05 OUT 8
15 CS 3 IN
14 CS 2 IN
13 CS 1 IN
12 O 1 OUT
11 O 2 OUT
10 O 3 OUT
9 O 4 OUT


13 14 15
CS1 CS2 CS3
01 *12
02 *11
03 *10
04 *9
05 *8
06 *7
07 *6
08 *5
BLK 4
2
R
3
CS1 13
CS2 14
CS3 15
CK 2
9-BIT COUNTER
3-TO-8 DECODER
12 01
11 02
10 03
9 04
8 05
7 06
6 07
5 08
R 3
4 BLK

OUTPUT TIMING (WHEN CS1·CS2·CS3 = LOW)



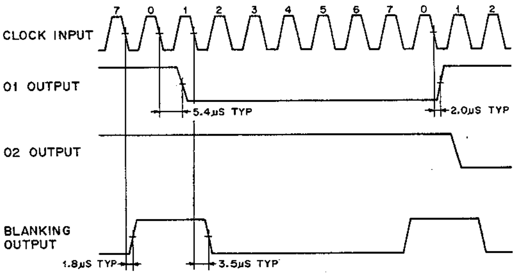
FUNCTION TABLE

CS1	0	1	0	1	0	1	0	1
CS2	0	0	1	1	0	0	1	1
CS3	0	0	0	0	1	1	1	1
CLOCK								
0～63	○							
64～127		○						
128～191			○					
192～255				○				
256～319					○			
320～383						○		
384～447							○	
448～511								○

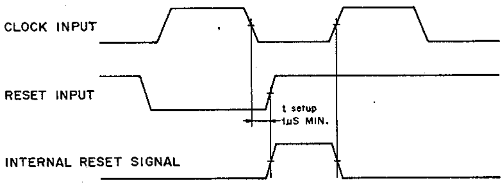
0 : LOW LEVEL
1 : HIGH LEVEL

ROUND "○" : COUNT
BLANK : NO COUNT

DETAIL OF OUTPUT TIMING (RL = 7KΩ)

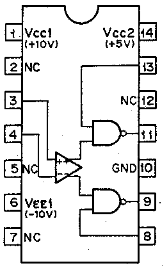


RESET TIMING



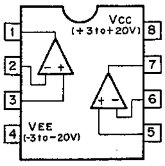
NE527N (SIGNETICS)

VOLTAGE COMPARATOR
— TOP VIEW —


1 Vcc1 (+10V)
Vcc2 (+5V) 14
2 NC
13
3
NC 12
4
11
5 NC
GND 10
6 VEE1 (-10V)
9
7 NC
8

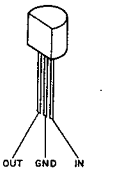
NE5532P (TI)

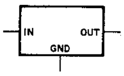
LOW NOISE OPERATIONAL AMPLIFIER
— TOP VIEW —


Vcc (+3 to +20V) 8
1
2
3
4
7
6
5
VEE (-3 to -20V)

NJM78L ? ?A (NEC)

POSITIVE VOLTAGE REGULATOR (100mA)

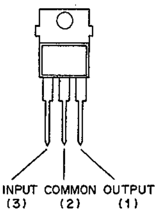




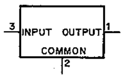
OUTPUT VOLTAGE	NJM78L??A	uA78L??ACL	uA78L??AWV	uPC78L??J	AN78L??
+2.6V	NJM78L02A	uA78L02ACL	uA78L26AWV	----------	-------
+4V	----------	----------	----------	----------	AN78L04
+5V	NJM78L05A	uA78L05ACL	uA78L05AWV	uPC78L05J	AN78L05
+6V	NJM78L06A	----------	----------	----------	AN78L06
+6.2V	----------	uA78L06ACL	uA78L62AWV	----------	-------
+7V	----------	----------	----------	----------	AN78L07
+8V	NJM78L08A	uA78L08ACL	----------	uPC78L08J	AN78L08
+8.2V	----------	----------	uA78L82AWV	----------	-------
+9V	NJM78L09A	uA78L09ACL	uA78L09AWV	----------	AN78L09
+10V	----------	uA78L10ACL	----------	uPC78L10J	AN78L10
+12V	NJM78L12A	uA78L12ACL	uA78L12AWV	uPC78L12J	AN78L12
+15V	NJM78L15A	uA78L15ACL	uA78L15AWV	uPC78L15J	AN78L15
+18V	NJM78L18A	----------	uA78L18AWV	----------	AN78L18
+20V	NJM78L20A	----------	----------	----------	AN78L20
+24V	NJM78L24A	----------	uA78L24AWV	----------	AN78L24

NJM78M ? ?A (JRC)

POSITIVE VOLTAGE REGULATOR (500mA)
— FRONT VIEW —

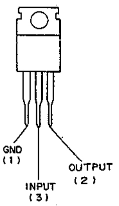

INPUT (3)
COMMON (2)
OUTPUT (1)

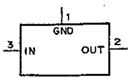
5V	NJM78M05A
6V	NJM78M06A
8V	NJM78M08A
9V	NJM78M09A
12V	NJM78M12A
15V	NJM78M15A
18V	NJM78M18A
20V	NJM78M20A
24V	NJM78M24A


3
INPUT
OUTPUT
1
COMMON
2

NJM79 ? ?A (JRC)

NEGATIVE VOLTAGE REGULATOR (1 A)
— SIDE VIEW —

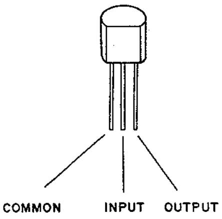

GND (1)
INPUT (3)
OUTPUT (2)

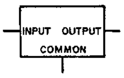

1
GND
3
IN
OUT
2

OUTPUT VOLTAGE	??
− 5 V	05
− 6 V	06
− 8 V	08
− 9 V	09
−12 V	12
−15 V	15
−18 V	18
−24 V	24

NJM79L ? ?A (JRC)

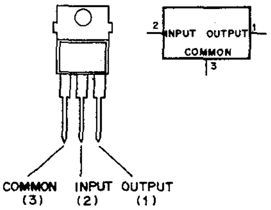
NEGATIVE VOLTAGE REGULATOR (100mA)
— FRONT VIEW —


COMMON
INPUT
OUTPUT


INPUT
OUTPUT
COMMON

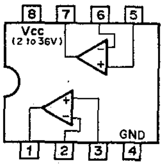
OUTPUT VOLTAGE	NJM79L??A
−3V	NJM79L03A
−4V	
−5V	NJM79L05A
−6V	NJM79L06A
−7V	
−8V	NJM79L08A
−9V	NJM79L09A
−10V	
−12V	NJM79L12A
−15V	NJM79L15A
−18V	NJM79L18A
−20V	
−24V	NJM79L24A

NJM79M ? ?A (JRC)
NEGATIVE VOLTAGE REGULATOR (500mA)
— FRONT VIEW —

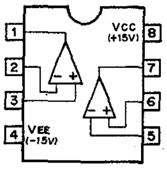

2
INPUT
OUTPUT
1
COMMON
3
COMMON (3)
INPUT (2)
OUTPUT (1)

-5V	NJM79M05A
-6V	NJM79M06A
-8V	NJM79M08A
-9V	NJM79M09A
-12V	NJM79M12A
-15V	NJM79M15A
-18V	NJM79M18A
-24V	NJM79M24A

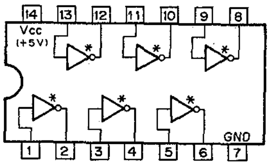
NJM2903D (JRC)
uPC393C (NEC)
VOLTAGE COMPARATOR
— TOP VIEW —

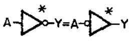

8
7
6
5
Vcc
(2 to 36V)
GND
1
2
3
4

NJM4559D (JRC)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
Vcc
(+15V)
8
7
6
5
VEE
(-15V)

SN7406N (TI)
TTL INVERTER BUFFER/DRIVER WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

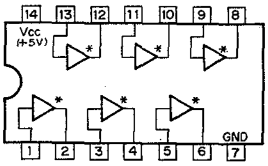


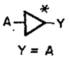
Y = Ā

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

SN7407N (TI)
TTL BUFFER/DRIVER WITH OPEN-COLLECTOR
— TOP VIEW —


14
13
12
11
10
9
8
Vcc
(+5V)
GND
1
2
3
4
5
6
7

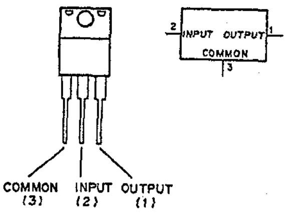


Y = A

A	Y
0	0
1	1

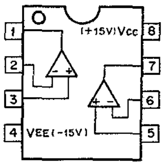
0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

RC79M ? ?FA (RAYTHEON)
NEGATIVE VOLTAGE REGULATOR
- FRONT VIEW -

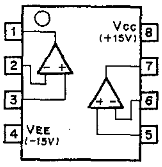

2
INPUT
OUTPUT
1
COMMON
3
COMMON (3)
INPUT (2)
OUTPUT (1)

-5V	NJM79M05FA	RC79M05FA
-6V	NJM79M06FA	RC79M06FA
-8V	NJM79M08FA	RC79M08FA
-9V	NJM79M09FA	RC79M09FA
-12V	NJM79M12FA	RC79M12FA
-15V	NJM79M15FA	RC79M15FA
-18V	NJM79M18FA	RC79M18FA
-24V	NJM79M24FA	RC79M24FA

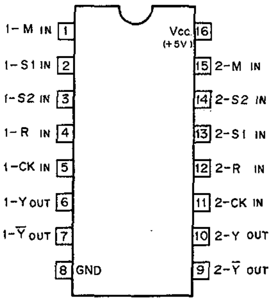
NJM4558D (JRC)
uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —

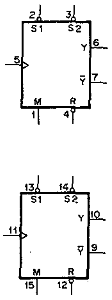

1
2
3
4
(+15V)Vcc
8
7
6
5
VEE(-15V)

NJM4560D (JRC)
OPERATIONAL AMPLIFIER
— TOP VIEW —


1
2
3
4
Vcc
(+15V)
8
7
6
5
VEE
(-15V)

SN74120N (TI)
TTL PULSE SYNCHRONIZER/DRIVER
— TOP VIEW —


1-M IN 1
1-S1 IN 2
1-S2 IN 3
1-R IN 4
1-CK IN 5
1-Y OUT 6
1-Ȳ OUT 7
8 GND
Vcc (+5V) 16
15 2-M IN
14 2-S2 IN
13 2-S1 IN
12 2-R IN
11 2-CK IN
10 2-Y OUT
9 2-Ȳ OUT


2
3
S1
S2
Y
6
Ȳ
7
5
M
R
1
4
13
14
S1
S2
Y
10
Ȳ
9
11
M
R
15
12

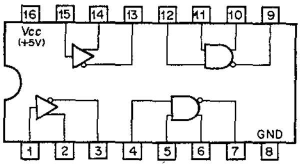
INPUT M	OUTPUT MODE
0	TRAIN OF PULSES
1	SINGLE PULSE

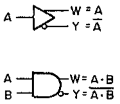
S1, S2 ; START COMMAND INPUTS
R ; STOP COMMAND INPUT
M ; MODE CONTROL INPUT
Y,Ȳ ; SYNCHRONIZED PULSE OUTPUT

INPUTS			FUNCTION
R	S1	S2	
X	0	X	PASS OUTPUT PULSES
X	X	0	PASS OUTPUT PULSES
0	1	1	INHIBIT OUTPUT PULSES
1	↓	1	START OUTPUT PULSES
1	1	↓	START OUTPUT PULSES
↓	1	1	STOP OUTPUT PULSES
1	1	1	CONTINUE

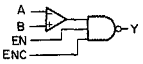
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

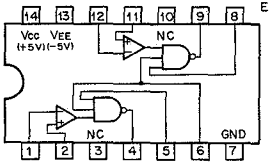
SN74265N (TI)
TTL COMPLEMENTARY-OUTPUT ELEMENT
— TOP VIEW —


16
15
14
13
12
11
10
9
Vcc
(+5V)
GND
1
2
3
4
5
6
7
8


A
W = A
Y = Ā
A
B
W = A·B
Y = A·B

SN75107AN (TI)
LINE RECEIVER
— TOP VIEW —

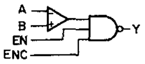


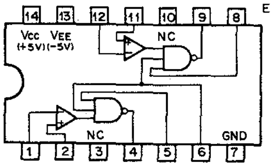

14
13
12
11
10
9
8
Vcc VEE
(+5V)(-5V)
NC
NC
GND
1
2
3
4
5
6
7

DIFF· INPUTS	EN	ENC	Y
B-A ≦ -25mV	X	X	1
|B-A| < 25mV	X	0	1
	0	X	1
	1	1	N·D
B-A ≧ 25mV	X	0	1
	0	X	1
	1	1	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

SN75207N (TI)
DUAL HIGH-SENSITIVITY LINE RECEIVER
— TOP VIEW —

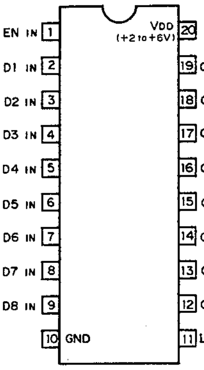


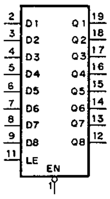

14
13
12
11
10
9
8
Vcc VEE
(+5V)(-5V)
NC
NC
GND
1
2
3
4
5
6
7

DIFF· INPUTS	EN	ENC	Y
B-A ≦ -10 mV	X	X	1
|B-A| < 10 mV	X	0	1
	0	X	1
	1	1	N·D
B-A ≧ 10mV	X	0	1
	0	X	1
	1	1	0

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
ND; NOT DEFINED

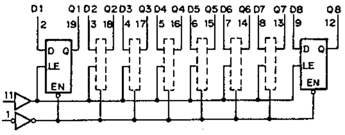
SN74HC573N (TI)
TC74HC573P (TOSHIBA)
C-MOS 3-STATE OUTPUTS OCTAL LATCHES
— TOP VIEW —


EN IN 1
D1 IN 2
D2 IN 3
D3 IN 4
D4 IN 5
D5 IN 6
D6 IN 7
D7 IN 8
D8 IN 9
10 GND
VDD (+2 to +6V) 20
19 Q1 OUT
18 Q2 OUT
17 Q3 OUT
16 Q4 OUT
15 Q5 OUT
14 Q6 OUT
13 Q7 OUT
12 Q8 OUT
11 LE IN

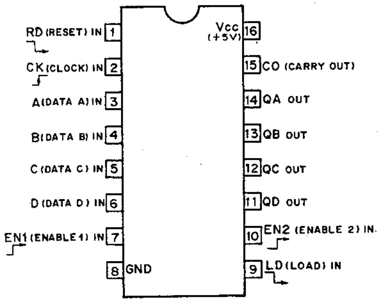

D1 D2 D3 D4 D5 D6 D7 D8 LE EN
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8

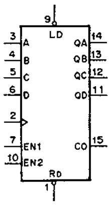
INPUTS			OUT
EN	LE	D	Q
0	1	1	1
0	1	0	0
0	0	X	Qo
1	X	X	HI–Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE


D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6 D7 Q7 D8 Q8
D Q
LE
EN
LE
EN

SN74ALS161BN (TI)
SN74LS161AN (TI)
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER
— TOP VIEW —


RD (RESET) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
Vcc (+5V) 16
15 CO (CARRY OUT)
14 QA OUT
13 QB OUT
12 QC OUT
11 QD OUT
10 EN2 (ENABLE 2) IN.
9 LD (LOAD) IN


LD
A B C D
EN1 EN2
RD
QA QB QC QD
CO

MODE SELECTION

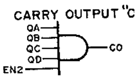
CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (ASYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

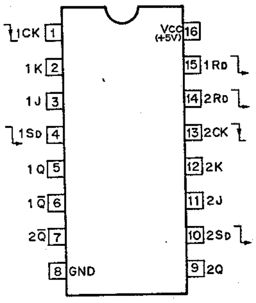
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

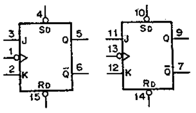
CARRY OUTPUT "CO"


QA
QB
QC
QD
EN2
CO

CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

74F112PC (FSC)
SN74ALS112AN (TI)
SN74LS112AN (TI)
TTL J-K FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —

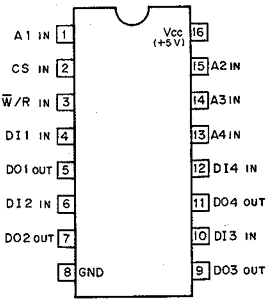

1CK 1
1K 2
1J 3
1SD 4
1Q 5
1Q̄ 6
2Q̄ 7
8 GND
Vcc (+5V) 16
15 1RD
14 2RD
13 2CK
12 2K
11 2J
10 2SD
9 2Q

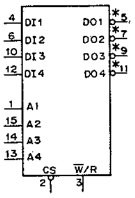

4 SD 3 J 1 2 K RD 15 Q 5 Q̄ 6
10 SD 11 J 13 12 K RD 14 Q 9 Q̄ 7

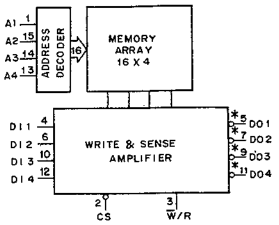
INPUTS					OUTPUTS	
SD	RD	CK	J	K	Qn+1	$\overline{\text{Qn+1}}$
0	1	X	X	X	1	0
1	0	X	X	X	0	1
0	0	X	X	X	1*	1*
1	1	⌐L	0	0	Qn	$\overline{\text{Qn}}$
			0	1	0	1
			1	0	1	0
			1	1	$\overline{\text{Qn}}$	Qn
1	1	1	X	X	Qn	$\overline{\text{Qn}}$

0; LOW LEVEL X; DON'T CARE
1; HIGH LEVEL *; NONSTABLE

SN74LS189AN (TI)
SN74S189AN (TI)
TTL 64-BIT (16x4) RAM WITH 3-STATE OUTPUT
— TOP VIEW —


A1 IN 1
CS IN 2
W̄/R IN 3
DI1 IN 4
DO1 OUT 5
DI2 IN 6
DO2 OUT 7
8 GND
Vcc (+5V) 16
15 A2 IN
14 A3 IN
13 A4 IN
12 DI4 IN
11 DO4 OUT
10 DI3 IN
9 DO3 OUT


4 DI1 6 DI2 10 DI3 12 DI4
1 A1 15 A2 14 A3 13 A4
DO1 *5 DO2 *7 DO3 *9 DO4 *11
CS 2 W̄/R 3


A1 1
A2 15
A3 14
A4 13
ADDRESS DECODER
16
MEMORY ARRAY 16 X 4
DI1 4
DI2 6
DI3 10
DI4 12
WRITE & SENSE AMPLIFIER
*5 DO1
*7 DO2
*9 DO3
*11 DO4
2 CS
3 W̄/R

DI1 to DI4 ; DATA INPUTS

DO1 to DO4 ; DATA OUTPUTS

A1 to A3 ; ADDRESS INPUT

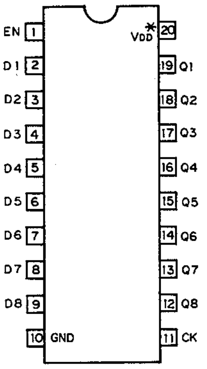
CS ; CHIP SELECT INPUT

$\overline{W}$/R ; WRITE/READ ENABLE IN

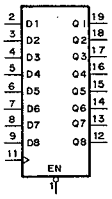
CS	$\overline{W}$/R	FUNCTION	OUTPUTS
0	0	WRITE	HIGH IMPEDANCE
0	1	READ	COMPLEMENT OF DATA ENTERED
1	X	INHIBIT	HIGH IMPEDANCE

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74HC574N (TI)
TC74HC574P (TOSHIBA)
C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
— TOP VIEW —


EN 1
D1 2
D2 3
D3 4
D4 5
D5 6
D6 7
D7 8
D8 9
10 GND
VDD* 20
19 Q1
18 Q2
17 Q3
16 Q4
15 Q5
14 Q6
13 Q7
12 Q8
11 CK

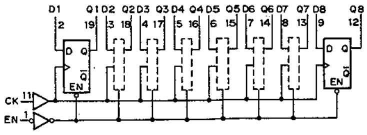
* VDD HC; +2 to +6V
HCT; +5V


D1 D2 D3 D4 D5 D6 D7 D8
Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8
EN

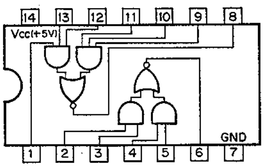
EACH FLIP-FLOP

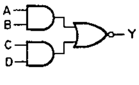
INPUTS			OUT
EN	CK	D	Q
0	⎍	1	1
0	⎍	0	0
0	0	X	Qo
1	X	X	HI–Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

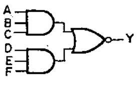

D1 Q1 D2 Q2 D3 Q3 D4 Q4 D5 Q5 D6 Q6 D7 Q7 D8 Q8
D Q
EN
CK
EN

SN74LS51N (TI)
TTL 2-WIDE 2-INPUT/3-INPUT AND-OR-INVERT GATE
— TOP VIEW —


14 13 12 11 10 9 8
Vcc (+5V)
GND
1 2 3 4 5 6 7



$Y=\overline{A\cdot B+C\cdot D}$

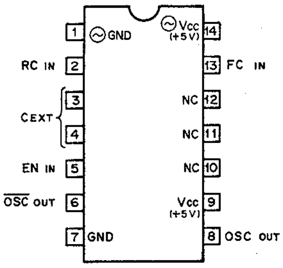


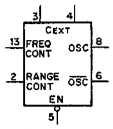
$Y=\overline{A\cdot B\cdot C+D\cdot E\cdot F}$

SN74LS624N (TI)

TTL VOLTAGE CONTROLLED OSCILLATOR

— TOP VIEW —


1 GND
2 RC IN
3, 4 CEXT
5 EN IN
6 $\overline{OSC}$ OUT
7 GND
8 OSC OUT
9 Vcc (+5V)
10 NC
11 NC
12 NC
13 FC IN
14 Vcc (+5V)

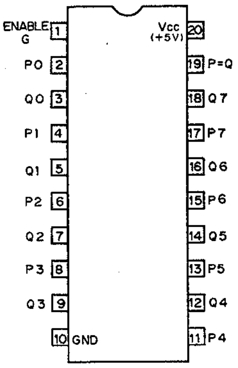

3
4
CEXT
13 FREQ CONT
2 RANGE CONT
OSC 8
$\overline{OSC}$ 6
EN
5

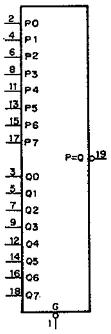
EN	OSC	$\overline{OSC}$
0	ENABLE	ENABLE
1	0	1

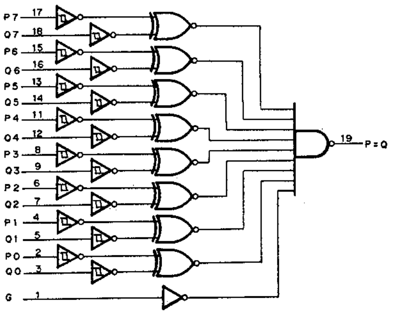
0; LOW LEVEL
1; HIGH LEVEL

SN74LS688N (TI)

TTL 8-BIT MAGNITUDE COMPARATOR


ENABLE G 1
P0 2
Q0 3
P1 4
Q1 5
P2 6
Q2 7
P3 8
Q3 9
10 GND
11 P4
12 Q4
13 P5
14 Q5
15 P6
16 Q6
17 P7
18 Q7
19 P=Q
20 Vcc (+5V)


2 P0
4 P1
6 P2
8 P3
11 P4
13 P5
15 P6
17 P7
P=Q 19
3 Q0
5 Q1
7 Q2
9 Q3
12 Q4
14 Q5
16 Q6
18 Q7
G
1


P7 17
Q7 18
P6 15
Q6 16
P5 13
Q5 14
P4 11
Q4 12
P3 8
Q3 9
P2 6
Q2 7
P1 4
Q1 5
P0 2
Q0 3
G 1
19 P=Q

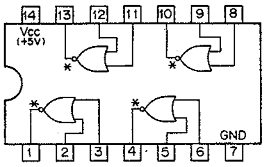
INPUTS		OUTPUT
P,Q	G	P=Q
P=Q	0	0
P>Q	0	1
P<Q	0	1
X	1	1

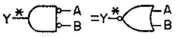
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74LS33N (TI)

TTL 2-INPUT POSITIVE-NOR GATE WITH OPEN-COLLECTOR

— TOP VIEW —


14 13 12 11 10 9 8
Vcc (+5V)
*
GND
1 2 3 4 5 6 7



Y=$\overline{A+B}=\overline{A}\cdot\overline{B}$

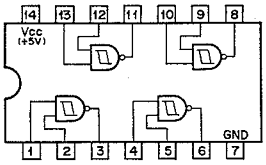
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

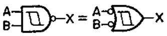
0: LOW LEVEL
1: HIGH LEVEL

SN74LS132N (TI)

TTL 2-INPUT NAND SCHMITT TRIGGER

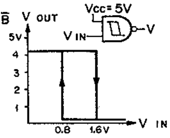
— TOP VIEW —


14 13 12 11 10 9 8
Vcc (+5V)
GND
1 2 3 4 5 6 7



X=$\overline{A\cdot B}=\overline{A}+\overline{B}$

A	B	X
0	0	1
0	1	1
1	0	1
1	1	0

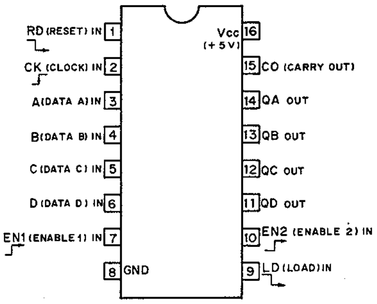


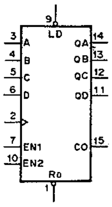
0: LOW LEVEL
1: HIGH LEVEL

74F163APC (FSC)
SN74ALS163AN (TI)
SN74LS163AN (TI)

TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER

— TOP VIEW —


RD (RESET) IN 1
CK (CLOCK) IN 2
A (DATA A) IN 3
B (DATA B) IN 4
C (DATA C) IN 5
D (DATA D) IN 6
EN1 (ENABLE 1) IN 7
8 GND
9 LD (LOAD) IN
10 EN2 (ENABLE 2) IN
11 QD OUT
12 QC OUT
13 QB OUT
14 QA OUT
15 CO (CARRY OUT)
16 Vcc (+5V)


9
LD
3 A
4 B
5 C
6 D
2
7 EN1
10 EN2
RD
1
QA 14
QB 13
QC 12
QD 11
CO 15

MODE SELECTION

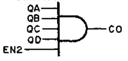
CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

CARRY OUTPUT "CO"

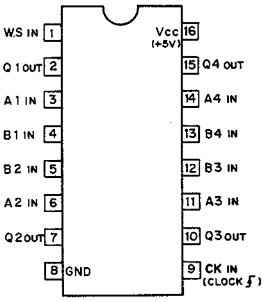

QA
QB
QC
QD
EN2
CO

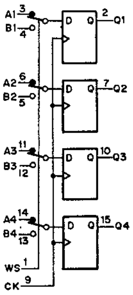
CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

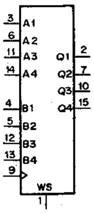
SN74LS399N (TI)

TTL QUAD 2-INPUT MULTIPLEXER WITH STORAGE

— TOP VIEW —


WS IN 1
Q1 OUT 2
A1 IN 3
B1 IN 4
B2 IN 5
A2 IN 6
Q2 OUT 7
8 GND
9 CK IN (CLOCK ʃ)
10 Q3 OUT
11 A3 IN
12 B3 IN
13 B4 IN
14 A4 IN
15 Q4 OUT
16 Vcc (+5V)


A1 3
B1 4
D Q 2 Q1
A2 6
B2 5
D Q 7 Q2
A3 11
B3 12
D Q 10 Q3
A4 14
B4 13
D Q 15 Q4
WS 1
CK 9


3 A1
6 A2
11 A3
14 A4
4 B1
5 B2
12 B3
13 B4
9
WS
1
Q1 2
Q2 7
Q3 10
Q4 15

WS	CK	Q
0	ʃ	A
1	ʃ	B
X	0	Qo

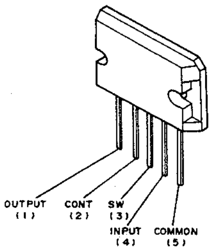
WS; WORD SELECT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

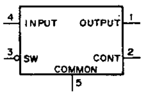
STR90 ? ? (SANKEN)

POSITIVE VOLTAGE REGULATOR (4A)

— OBLIQUE VIEW —


OUTPUT (1)
CONT (2)
SW (3)
INPUT (4)
COMMON (5)

OUTPUT VOLTAGE	??
5 V	05
12V	12


4 INPUT
OUTPUT 1
3 SW
CONT 2
COMMON
5

CONT; OUTPUT CONTROL
SW; OUTPUT SWITCHING

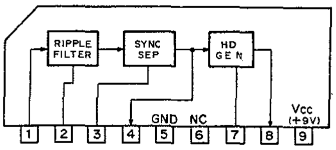
SW	OUTPUT
0	ON
1	OFF

0; MAX 0.6V
1; MIN 2V

TA7357AP (TOSHIBA)

SYNC SEPARATOR/HD PULSE GENERATOR

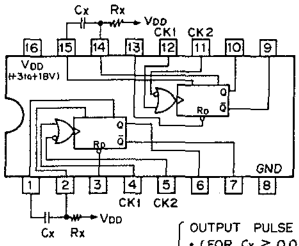
— SIDE VIEW —


RIPPLE FILTER
SYNC SEP
HD GEN
GND
NC
Vcc (+9V)
1
2
3
4
5
6
7
8
9

TC4528BP (TOSHIBA)

C-MOS RETRIGGERABLE/RESETTABLE MMV

— TOP VIEW —


Cx
Rx
VDD
CK1
CK2
16
15
14
13
12
11
10
9
VDD (+3 to +18V)
Q
Q̄
RD
GND
1
2
3
4
5
6
7
8
CK1
CK2
VDD
Cx
Rx

INPUTS			OUTPUTS	
CK1	CK2	RD	Q	Q̄
↑	1	1	⎍	⊔
↑	0	1	Q	Q̄
1	↓	1	Q	Q̄
0	↓	1	⎍	⊔
X	X	0	0	1

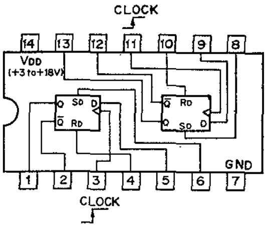
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH Q OR Q̄
- (FOR $C_x \geq 0.01\mu F$ USE FORMULA)
  $PW = 0.2 \cdot R_x \cdot C_x \cdot \ell n\ (V_{DD} - GND)$
- (FOR $C_x < 0.01\mu F$ USE DATA BOOK.)

TC504013BP (TOSHIBA)

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET

— TOP VIEW —


CLOCK
14
13
12
11
10
9
8
VDD (+3 to +18V)
Q
Q̄
SD
RD
GND
1
2
3
4
5
6
7
CLOCK

DIRECT R-S FLIP FLOP

SD	RD	Q	Q̄
0	0	Qn	Q̄n
0	1	0	1
1	0	1	0
1	1	0	1

D-TYPE FLIP FLOP

CKn	CKn+1
D	Q
0	0
1	1

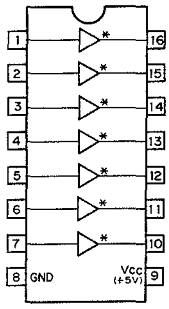
CLOCK CK; ↑
CKn; BEFORE CLOCK
CKn+1; AFTER CLOCK

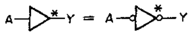
0; LOW LEVEL
1; HIGH LEVEL

TD62304P (TOSHIBA)

DARLINGTON DRIVER WITH OPEN COLLECTOR OUTPUT

— TOP VIEW —


1
2
3
4
5
6
7
8 GND
16
15
14
13
12
11
10
9
Vcc (+5V)
*



Y=A

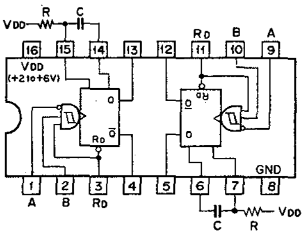
A	Y
0	0
1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
* ; OPEN COLLECTOR

TC74HC221P (TOSHIBA)
uPD74HC221AC (NEC)

C-MOS MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

— TOP VIEW —


R
C
VDD
RD
B
A
16
15
14
13
12
11
10
9
VDD (+2 to +6V)
Q
Q̄
RD
GND
1
2
3
4
5
6
7
8
A
B
RD
C
R
VDD

INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⊔
1	↓	1	⎍	⊔
↑	0	1	⎍	⊔

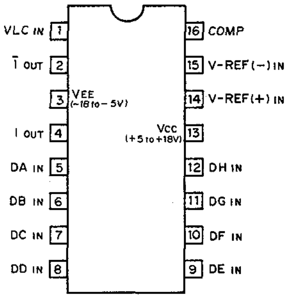
0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

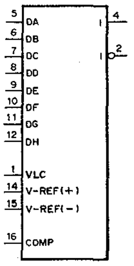
OUTPUT PULSE WIDTH = 0.7CR

TD62901P (TOSHIBA)

HIGH SPEED 8-BIT D/A CONVERTER

— TOP VIEW —


VLC IN 1
Ī OUT 2
3 VEE (-18 to -5V)
I OUT 4
DA IN 5
DB IN 6
DC IN 7
DD IN 8
16 COMP
15 V-REF(−) IN
14 V-REF(+) IN
Vcc (+5 to +18V) 13
12 DH IN
11 DG IN
10 DF IN
9 DE IN

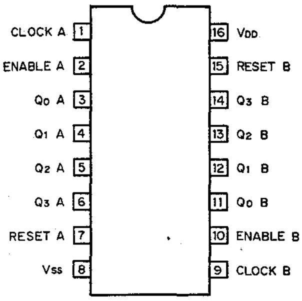

5 DA
6 DB
7 DC
8 DD
9 DE
10 DF
11 DG
12 DH
1 VLC
14 V-REF(+)
15 V-REF(−)
16 COMP
I 4
Ī 2

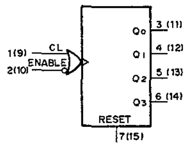
COMP ; COMPENSATION
DA - DH ; BINARY DATA
I ; COMPLEMENTARY CURRENT
V-REF ; REFERENCE VOLTAGE
VLC ; THRESHOLD LEVEL CONTROL

TC74HC4520P (TOSHIBA)

CMOS DIGITAL IC

— TOP VIEW —


CLOCK A 1
ENABLE A 2
Q0 A 3
Q1 A 4
Q2 A 5
Q3 A 6
RESET A 7
Vss 8
16 VDD
15 RESET B
14 Q3 B
13 Q2 B
12 Q1 B
11 Q0 B
10 ENABLE B
9 CLOCK B


1(9)
2(10)
CL
ENABLE
Q0
Q1
Q2
Q3
3 (11)
4 (12)
5 (13)
6 (14)
RESET
7(15)

STATE	OUTPUTS			
	Q3	Q2	Q1	Q0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

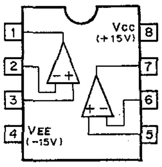
CL	ENABLE	RESET	ACTION
↑	1	0	INCREMENT COUNTER
0	↓	0	INCREMENT COUNTER
↓	X	0	NO CHANGE
X	↑	0	NO CHANGE
↑	0	0	NO CHANGE
1	↓	0	NO CHANGE
X	X	1	QA THRU QD=0

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TL082CP (TI)
uPC4082C (NEC)

OPERATIONAL AMPLIFIER
(J FET-INPUT)

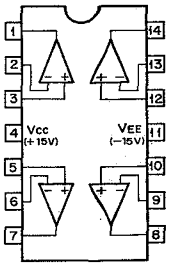
— TOP VIEW —


1
2
3
4
VEE (−15V)
Vcc (+15V)
8
7
6
5
−
+

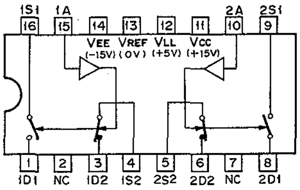
TL084CN (TI)

OPERATIONAL AMPLIFIER
(J FET-INPUT)

— TOP VIEW —

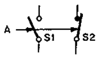

1
2
3
4
5
6
7
Vcc (+15V)
VEE (−15V)
14
13
12
11
10
9
8
−
+

TL191CN (TI)
TWIN DUAL COMPLEMENTARY
BI-MOS ANALOG SWITCH
— TOP VIEW —

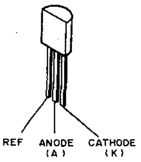

1S1
1A
2A
2S1
16
15
14
13
12
11
10
9
VEE (−15V)
VREF (0V)
VLL (+5V)
Vcc (+15V)
1
2
3
4
5
6
7
8
1D1
NC
1D2
1S2
2S2
2D2
NC
2D1

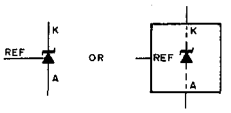
A	S1	S2
1	ON	OFF
0	OFF	ON

0; LOW LEVEL
1; HIGH LEVEL

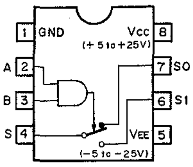


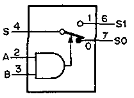
TL431CLPB (TI)
ADJUSTABLE PRECISION SHUNT REGULATOR


REF
ANODE (A)
CATHODE (K)


REF
K
A
OR
REF
K
A

TL601CP (TI)
P-MOS ANALOG SWITCH
— TOP VIEW —

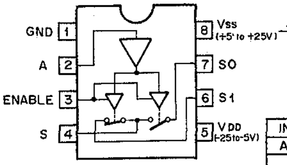

1 GND
Vcc (+5 to +25V) 8
A 2
7 SO
B 3
6 S1
S 4
VEE 5
(−5 to −25V)

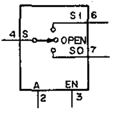

S 4
A 2
B 3
1
0
6 S1
7 SO

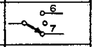
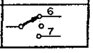
CONT IN		ON CHANNEL
A	B	
0	0	SO
0	1	SO
1	0	SO
1	1	S1

0; LOW LEVEL
1; HIGH LEVEL

TL607CP (TI)
P-MOS ANALOG SWITCH
— TOP VIEW —

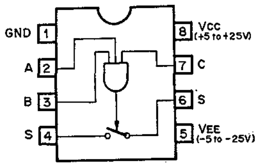

GND 1
A 2
ENABLE 3
S 4
8 Vss (+5 to +25V)
7 SO
6 S1
5 VDD (−25 to −5V)

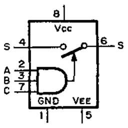

S1 6
4 S
OPEN
SO 7
A
EN
2
3

INPUTS		SW
A	EN	
X	0	OPEN
0	1	
1	1	

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TL610CP (TI)
MOS ANALOG SWITCH
— TOP VIEW —

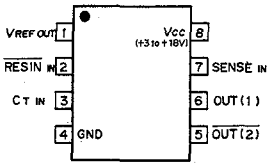

GND 1
A 2
B 3
S 4
8 Vcc (+5 to +25V)
7 C
6 S
5 VEE (−5 to −25V)

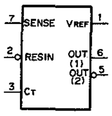

8
Vcc
S 4
6 S
A 2
B 3
C 7
GND
VEE
1
5

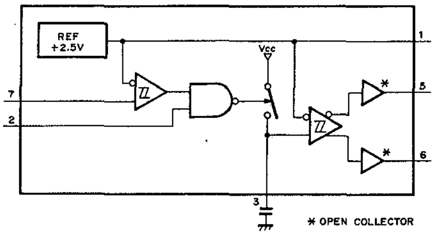
CONT IN			S
A	B	C	
0	X	X	OFF(OPEN)
X	0	X	OFF(OPEN)
X	X	0	OFF(OPEN)
1	1	1	ON(CLOSED)

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TL7705ACP (TI)
POWER VOLTAGE SUPERVISOR
— TOP VIEW —

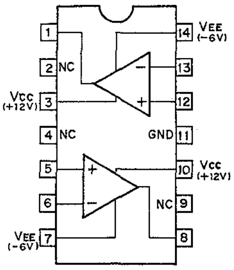

VREF OUT 1
RESIN IN 2
CT IN 3
4 GND
Vcc (+3 to +18V) 8
7 SENSE IN
6 OUT(1)
5 OUT(2)


7 SENSE
2 RESIN
3 CT
VREF 1
OUT(1) 6
OUT(2) 5

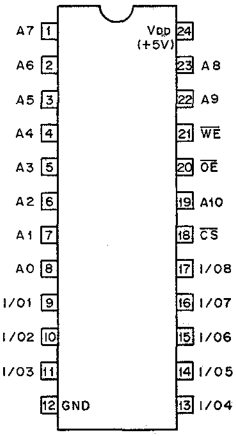

REF +2.5V
Vcc
1
7
2
5
6
3

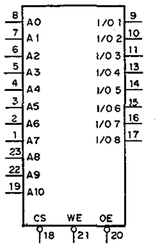
* OPEN COLLECTOR

TL820CN (TI)
VOLTAGE COMPARATOR
(DIFFERENTIAL INPUTS)
— TOP VIEW —


1
2 NC
Vcc (+12V) 3
4 NC
5
6
VEE (−6V) 7
14 VEE (−6V)
13
12
11 GND
10 Vcc (+12V)
9 NC
8

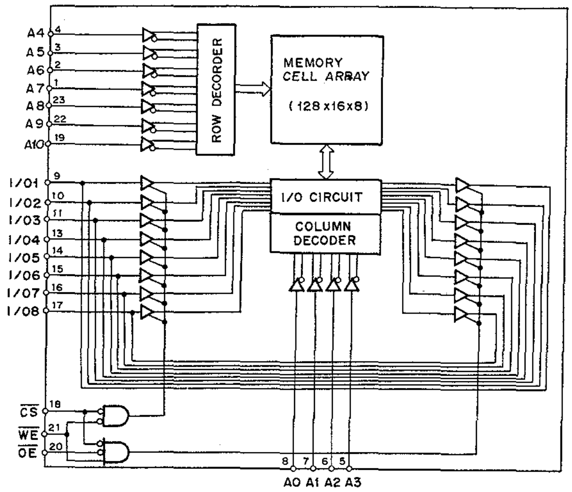
TMM2015AP-90 (TOSHIBA) (ACCESS TIME = 90 nS)
N-MOS 16K STATIC RAM (2048x8)
— TOP VIEW —


A7 1
A6 2
A5 3
A4 4
A3 5
A2 6
A1 7
A0 8
I/O1 9
I/O2 10
I/O3 11
12 GND
VDD (+5V) 24
23 A8
22 A9
21 WE
20 OE
19 A10
18 CS
17 I/O8
16 I/O7
15 I/O6
14 I/O5
13 I/O4


A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
I/O8
CS
WE
OE

MODE	CS	WE	OE
WRITE	0	0	X
READ	0	1	0
STANDBY	1	X	X

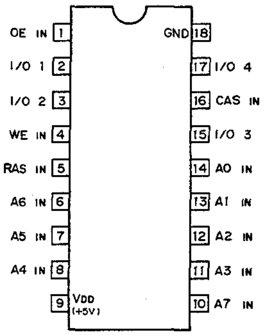
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

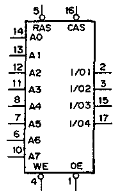

A4 4
A5 3
A6 2
A7 1
A8 23
A9 22
A10 19
ROW DECORDER
MEMORY CELL ARRAY (128x16x8)
I/O1 9
I/O2 10
I/O3 11
I/O4 13
I/O5 14
I/O6 15
I/O7 16
I/O8 17
I/O CIRCUIT
COLUMN DECODER
CS 18
WE 21
OE 20
8 7 6 5
A0 A1 A2 A3

TMM41464P-12 (TOSHIBA) (ACCESS TIME = 120nS)

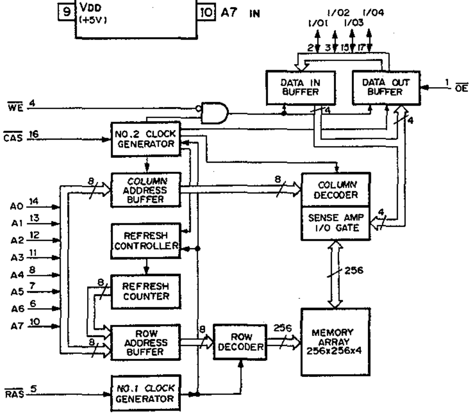
N-MOS 65,536-WORDx4-BIT DYNAMIC RAM

— TOP VIEW —


OE IN 1
I/O 1 2
I/O 2 3
WE IN 4
RAS IN 5
A6 IN 6
A5 IN 7
A4 IN 8
9 VDD (+5V)
GND 18
17 I/O 4
16 CAS IN
15 I/O 3
14 A0 IN
13 A1 IN
12 A2 IN
11 A3 IN
10 A7 IN


5
16
RAS
CAS
14 A0
13 A1
12 A2
11 A3
8 A4
7 A5
6 A6
10 A7
I/O1 2
I/O2 3
I/O3 15
I/O4 17
WE
OE
4
1

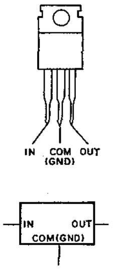
A0–A7 ; ADDRESS INPUTS
RAS ; ROW ADDRESS STROBE INPUT
CAS ; COLUMN ADDRESS STROBE INPUT
WE ; WRITE ENABLE INPUT
OE ; OUTPUT ENABLE
I/O ; DATA INPUT/OUTPUT


I/O1
I/O2
I/O3
I/O4
2 3 15 17
DATA IN BUFFER
DATA OUT BUFFER
1 OE
WE 4
CAS 16
NO.2 CLOCK GENERATOR
COLUMN ADDRESS BUFFER
COLUMN DECODER
SENSE AMP I/O GATE
REFRESH CONTROLLER
REFRESH COUNTER
ROW ADDRESS BUFFER
ROW DECODER
MEMORY ARRAY 256x256x4
NO.1 CLOCK GENERATOR
RAS 5
A0 14
A1 13
A2 12
A3 11
A4 8
A5 7
A6 6
A7 10
8
4
256

NJM78 ? ?A (JRC)
uPC78 ? ?H (NEC)

POSITIVE VOLTAGE REGULATOR (1 A)

— SIDE VIEW —


IN
COM (GND)
OUT
IN
OUT
COM(GND)

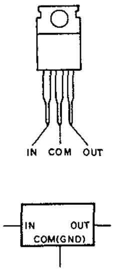
OUTPUT VOLTAGE	AN78??	FS78??	HA178??P	L78??	NJM78??B	NJM78??A/K
+5V	AN7805	FS7805	HA17805P	L7805	--------	NJM7805A/K
+6V	AN7806	------	HA17806P	-----	--------	NJM7806A/K
+7V	AN7807	------	HA17807P	L7807	--------	----------
+8V	AN7808	------	HA17808P	-----	--------	NJM7808A/K
+8.5V	------	------	--------	-----	--------	----------
+9V	AN7809	------	--------	-----	--------	NJM7809A/K
+10V	AN7810	------	--------	-----	--------	----------
+12V	AN7812	FS7812	HA17812P	-----	NJM7812B	NJM7812A/K
+15V	AN7815	FS7815	HA17815P	-----	--------	NJM7815A/K
+18V	AN7818	------	HA17818P	-----	--------	NJM7818A/K
+20V	AN7820	------	--------	-----	--------	NJM7820A/K
+24V	AN7824	FS7824	HA17824P	-----	--------	NJM7824A/K

OUTPUT VOLTAGE	uA78??UC	uPC143??H	uPC78??H	TA78???P/AP
+5V	uA7805UC	uPC14305H	uPC7805H	TA78005P/AP
+6V	uA7806UC	---------	--------	TA78006P/AP
+7V	--------	---------	--------	---------
+8V	uA7808UC	uPC14308H	uPC7808H	TA78008P/AP
+8.5V	uA7885UC	---------	--------	---------
+9V	--------	---------	--------	TA78009P/AP
+10V	--------	---------	--------	TA78010P/AP
+12V	uA7812UC	uPC14312H	uPC7812H	TA78012P/AP
+15V	uA7815UC	uPC14315H	uPC7815H	TA78015P/AP
+18V	uA7818UC	uPC14318H	uPC7818H	TA78018P/AP
+20V	--------	---------	--------	TA78020P/AP
+24V	uA7824UC	uPC14324H	uPC7824H	TA78024P/AP

uPC78M ? ?H (NEC)

POSITIVE VOLTAGE REGULATOR (0.5A)

— SIDE VIEW —


IN
COM
OUT
IN
OUT
COM(GND)

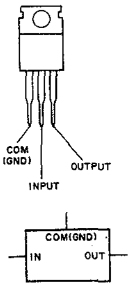
OUTPUT VOLTAGE	uA78M??UC	FS78??M	uPC78M??H	L78M??	HA178M??P
+5V	uA78M05UC	FS7805M	uPC78M05H	L78M05	HA178M05P
+6V	uA78M06UC	-------	---------	------	HA178M06P
+7V	---------	-------	---------	------	HA178M07P
+8V	uA78M08UC	-------	uPC78M08H	------	HA178M08P
+12V	uA78M12UC	FS7812M	uPC78M12H	------	HA178M12P
+15V	uA78M15UC	FS7815M	uPC78M15H	------	HA178M15P
+18V	---------	-------	---------	------	HA178M18P
+20V	uA78M20UC	-------	---------	------	HA178M20P
+24V	uA78M24UC	FS7824M	uPC78M24H	------	HA178M24P

OUTPUT VOLTAGE	AN78M??
+5V	AN78M05
+6V	AN78M06
+7V	AN78M07
+8V	AN78M08
+9V	AN78M09
+10V	AN78M10
+12V	AN78M12
+15V	AN78M15
+18V	AN78M18
+20V	AN78M20
+24V	AN78M24

uPC79 ? ?H (NEC)

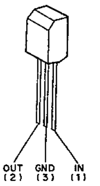
NEGATIVE VOLTAGE REGULATOR (1 A)

— SIDE VIEW —

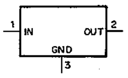

COM (GND)
INPUT
OUTPUT
COM(GND)
IN
OUT

OUTPUT VOLTAGE	AN79??	FS79??	uA79??UC	uPC79??H	MC79??CT
-2V	------	------	--------	--------	MC7902CT
-5V	AN7905	FS7905	uA7905UC	uPC7905H	MC7905CT
-5.2V	------	------	--------	--------	MC7905.2CT
-6V	AN7906	------	uA7906UC	--------	MC7906CT
-7V	AN7907	------	--------	--------	--------
-8V	AN7908	------	uA7908UC	uPC7908H	MC7908CT
-9V	AN7909	------	--------	--------	--------
-10V	AN7910	------	--------	--------	--------
-12V	AN7912	------	uA7912UC	uPC7912H	MC7912CT
-15V	AN7915	------	uA7915UC	uPC7915H	MC7915CT
-18V	AN7918	------	uA7918UC	uPC7918H	MC7918CT
-20V	AN7920	------	--------	--------	--------
-24V	AN7924	------	uA7924UC	uPC7924H	MC7924CT

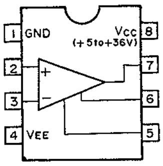
uPC78L ? ? (NEC)
POSITIVE VOLTAGE REGULATOR (100mA)


OUT
(2)
GND
(3)
IN
(1)

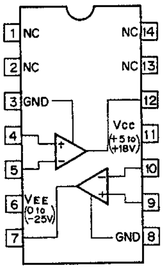
OUTPUT VOLTAGE	uPC78L??	uPC78L??A
5V	uPC78L05	uPC78L05A
8V	uPC78L08	
12V	uPC78L12	
15V	uPC78L15	


1
IN
OUT
2
GND
3

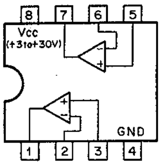
uPC311C (NEC)
VOLTAGE COMPARATOR
— TOP VIEW —


1 GND
Vcc
(+5 to +36V)
8
2
7
3
6
4 VEE
5

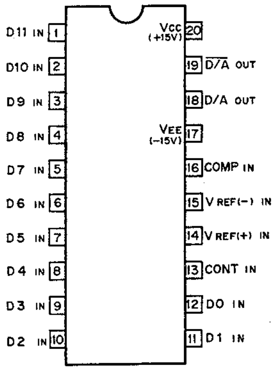
uPC319C (NEC)
DUAL VOLTAGE COMPARATOR
— TOP VIEW —

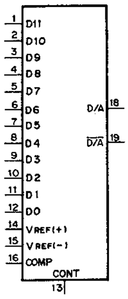

1 NC
2 NC
3 GND
4
5
6 VEE (0 to −25V)
7
NC 14
NC 13
12
Vcc (+5 to +18V) 11
10
9
GND 8

uPC358C (NEC)
DUAL OPERATIONAL AMPLIFIERS
— TOP VIEW —

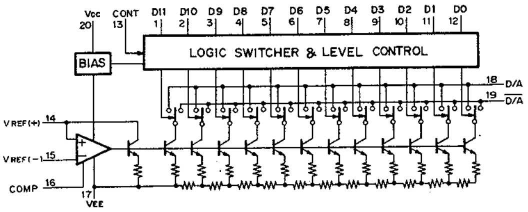

8
7
6
5
Vcc
(+3 to +30V)
GND
1
2
3
4

uPC648C (NEC)
12-BIT D/A CONVERTER WITH OPEN COLLECTOR OUTPUT
— TOP VIEW —

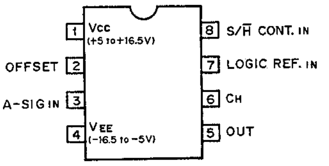

D11 IN 1
D10 IN 2
D9 IN 3
D8 IN 4
D7 IN 5
D6 IN 6
D5 IN 7
D4 IN 8
D3 IN 9
D2 IN 10
Vcc (+15V) 20
19 D/A OUT
18 D/A OUT
VEE (−15V) 17
16 COMP IN
15 V REF(−) IN
14 V REF(+) IN
13 CONT IN
12 D0 IN
11 D1 IN

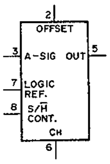

1 D11
2 D10
3 D9
4 D8
5 D7
6 D6
7 D5
8 D4
9 D3
10 D2
11 D1
12 D0
14 VREF(+)
15 VREF(−)
16 COMP
CONT
13
D/A 18
D/A 19

CONT ; THRESHOLD LEVEL CONTROL


Vcc 20
CONT 13
D11 1
D10 2
D9 3
D8 4
D7 5
D6 6
D5 7
D4 8
D3 9
D2 10
D1 11
D0 12
BIAS
LOGIC SWITCHER & LEVEL CONTROL
18 D/A
19 D/A
VREF(+) 14
VREF(−) 15
COMP 16
17 VEE

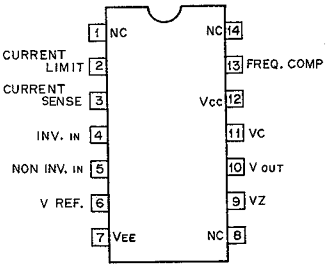
uPC649C (NEC)
SAMPLE AND HOLD CIRCUIT
— TOP VIEW —


1 Vcc (+5 to +16.5V)
OFFSET 2
A-SIG IN 3
4 VEE (−16.5 to −5V)
8 S/H CONT. IN
7 LOGIC REF. IN
6 CH
5 OUT

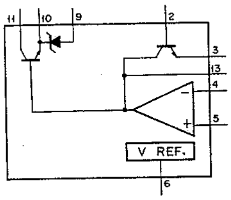

2
OFFSET
3 A-SIG
OUT 5
7 LOGIC REF.
8 S/H CONT.
CH
6

S/H CONT. ; SAMPLE/HOLD CONTROL
CH ; EXTERNAL HOLD CAPACITOR

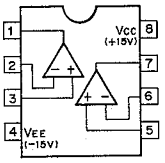
HA17723G (HITACHI)
uA723CN (TI)
uA723DC (FSC)
VOLTAGE REGULATOR
— TOP VIEW —


1 NC
CURRENT LIMIT 2
CURRENT SENSE 3
INV. IN 4
NON INV. IN 5
V REF. 6
7 VEE
NC 14
13 FREQ. COMP
Vcc 12
11 VC
10 V OUT
9 VZ
NC 8

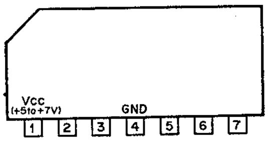
Vcc−VEE=40V(MAX)

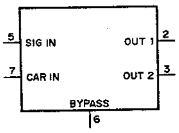

11
10
9
2
3
13
4
5
V REF.
6

uPC4557C (NEC)
OPERATIONAL AMPLIFIER (WIDE BAND, LOW NOISE)
— TOP VIEW —

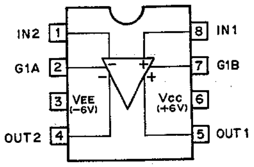

1
2
3
4 VEE (−15V)
Vcc (+15V) 8
7
6
5

uPC1037H (NEC)
uPC1037HA (NEC)
DOUBLE-BALANCED MODULATOR
— SIDE VIEW —

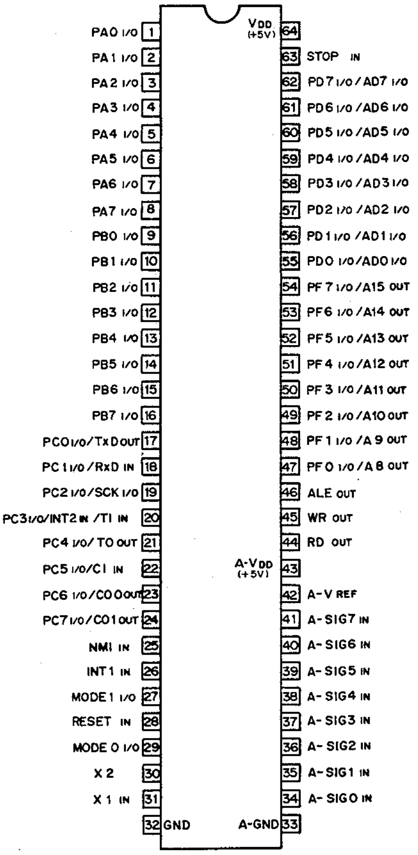

Vcc (+5 to +7V)
GND
1
2
3
4
5
6
7

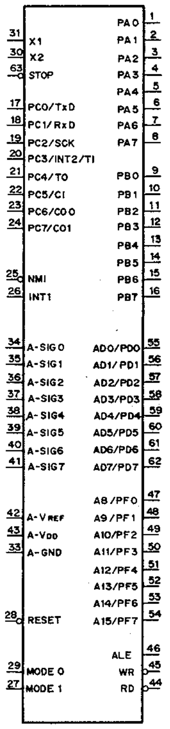

5 SIG IN
7 CAR IN
OUT 1 2
OUT 2 3
BYPASS
6

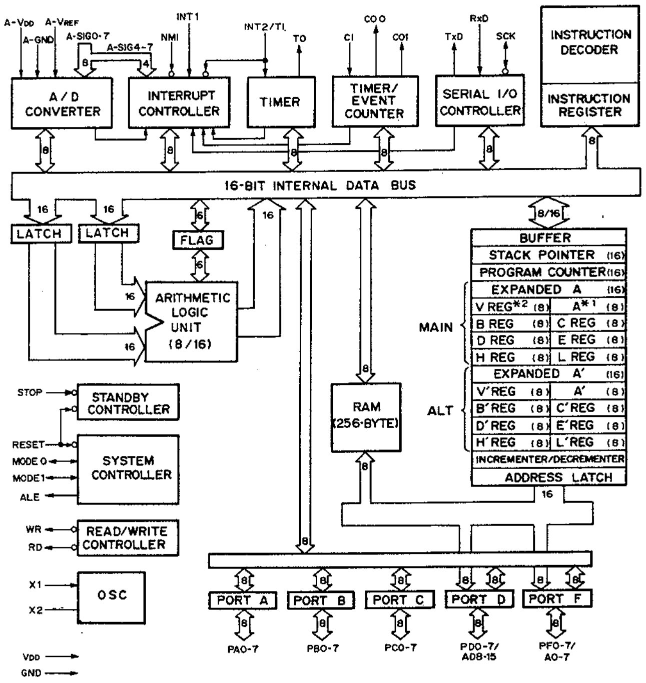
uPC1663C (NEC)
WIDEBAND VIDEO AMPLIFIER
— TOP VIEW —


IN2 1
G1A 2
3 VEE (−6V)
OUT2 4
8 IN1
7 G1B
Vcc (+6V) 6
5 OUT1

uPD78C10G
C-MOS SINGLE CHIP 8-BIT MICROPROCESSOR WITH A/D CONVERTER
— TOP VIEW —


PA0 I/O 1
PA1 I/O 2
PA2 I/O 3
PA3 I/O 4
PA4 I/O 5
PA5 I/O 6
PA6 I/O 7
PA7 I/O 8
PB0 I/O 9
PB1 I/O 10
PB2 I/O 11
PB3 I/O 12
PB4 I/O 13
PB5 I/O 14
PB6 I/O 15
PB7 I/O 16
PC0 I/O/TxD OUT 17
PC1 I/O/RxD IN 18
PC2 I/O/SCK I/O 19
PC3 I/O/INT2 IN /TI IN 20
PC4 I/O/TO OUT 21
PC5 I/O/CI IN 22
PC6 I/O/CO0 OUT 23
PC7 I/O/CO1 OUT 24
NMI IN 25
INT1 IN 26
MODE1 I/O 27
RESET IN 28
MODE 0 I/O 29
X2 30
X1 IN 31
32 GND
VDD (+5V) 64
63 STOP IN
62 PD7 I/O/AD7 I/O
61 PD6 I/O/AD6 I/O
60 PD5 I/O/AD5 I/O
59 PD4 I/O/AD4 I/O
58 PD3 I/O/AD3 I/O
57 PD2 I/O/AD2 I/O
56 PD1 I/O/AD1 I/O
55 PD0 I/O/AD0 I/O
54 PF7 I/O/A15 OUT
53 PF6 I/O/A14 OUT
52 PF5 I/O/A13 OUT
51 PF4 I/O/A12 OUT
50 PF3 I/O/A11 OUT
49 PF2 I/O/A10 OUT
48 PF1 I/O/A9 OUT
47 PF0 I/O/A8 OUT
46 ALE OUT
45 WR OUT
44 RD OUT
A-VDD (+5V) 43
42 A-V REF
41 A-SIG7 IN
40 A-SIG6 IN
39 A-SIG5 IN
38 A-SIG4 IN
37 A-SIG3 IN
36 A-SIG2 IN
35 A-SIG1 IN
34 A-SIG0 IN
A-GND 33

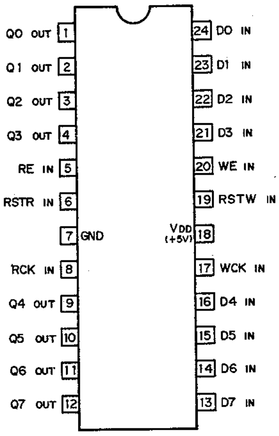

31 X1
30 X2
63 STOP
17 PC0/TxD
18 PC1/RxD
19 PC2/SCK
20 PC3/INT2/TI
21 PC4/TO
22 PC5/CI
23 PC6/CO0
24 PC7/CO1
25 NMI
26 INT1
34 A-SIG0
35 A-SIG1
36 A-SIG2
37 A-SIG3
38 A-SIG4
39 A-SIG5
40 A-SIG6
41 A-SIG7
42 A-VREF
43 A-VDD
33 A-GND
28 RESET
29 MODE 0
27 MODE 1
PA0 1
PA1 2
PA2 3
PA3 4
PA4 5
PA5 6
PA6 7
PA7 8
PB0 9
PB1 10
PB2 11
PB3 12
PB4 13
PB5 14
PB6 15
PB7 16
AD0/PD0 55
AD1/PD1 56
AD2/PD2 57
AD3/PD3 58
AD4/PD4 59
AD5/PD5 60
AD6/PD6 61
AD7/PD7 62
A8/PF0 47
A9/PF1 48
A10/PF2 49
A11/PF3 50
A12/PF4 51
A13/PF5 52
A14/PF6 53
A15/PF7 54
ALE 46
WR 45
RD 44

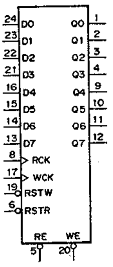

A-VDD
A-VREF
A-GND
A-SIG0-7
A-SIG4-7
NMI
INT1
INT2/TI
TO
CI
CO0
CO1
TxD
RxD
SCK
A/D CONVERTER
INTERRUPT CONTROLLER
TIMER
TIMER/EVENT COUNTER
SERIAL I/O CONTROLLER
INSTRUCTION DECODER
INSTRUCTION REGISTER
16-BIT INTERNAL DATA BUS
LATCH
LATCH
FLAG
ARITHMETIC LOGIC UNIT (8/16)
BUFFER
STACK POINTER (16)
PROGRAM COUNTER (16)
EXPANDED A (16)
V REG*2 (8)
A*1 (8)
B REG (8)
C REG (8)
D REG (8)
E REG (8)
H REG (8)
L REG (8)
EXPANDED A' (16)
V'REG (8)
A' (8)
B'REG (8)
C'REG (8)
D'REG (8)
E'REG (8)
H'REG (8)
L'REG (8)
INCREMENTER/DECREMENTER
ADDRESS LATCH
MAIN
ALT
STOP
STANDBY CONTROLLER
RESET
MODE 0
MODE 1
ALE
SYSTEM CONTROLLER
WR
RD
READ/WRITE CONTROLLER
RAM (256-BYTE)
X1
X2
OSC
VDD
GND
PORT A
PORT B
PORT C
PORT D
PORT F
PA0-7
PB0-7
PC0-7
PD0-7/AD0-7
PF0-7/A8-15

*1; ACCUMULATOR
*2; WORKING REGISTER VECTOR REG.

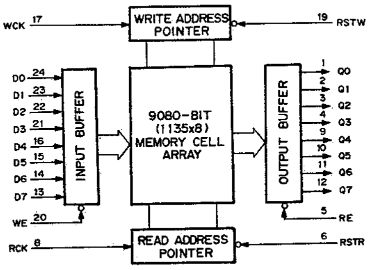
PA0-7;	INPUT/OUTPUT PORT A
PB0-7;	INPUT/OUTPUT PORT B
PC0-7;	INPUT/OUTPUT PORT C
TxD;	SERIAL DATA OUTPUT
RxD;	SERIAL DATA INPUT
SCK;	SERIAL CLOCK I/O
INT2/T1;	MASKABLE INTERRUPT REQUEST 2 IN/TIMER INPUT
TO;	TIMER OUTPUT
C1;	COUNTER INPUT
CO0;	COUNTER OUTPUT 0
CO1;	COUNTER OUTPUT 1
PD0-7/AD0-7;	I/O PORT D / ADDRESS/DATA BUS
PF0-7/A8-15;	I/O PORT F / ADDRESS BUS
ALE;	ADDRESS LATCH ENABLE OUTPUT
RD;	READ STROBE OUTPUT
WR;	WRITE STROBE OUTPUT
MODE 0;	MEMORY MODE 0 INPUT/OUTPUT
MODE 1;	MEMORY MODE 1 INPUT/OUTPUT
RESET;	SYSTEM RESET INPUT
STOP;	SYSTEM STOP INPUT
NMI;	NON-MASKABLE INTERRUPT REQUEST INPUT
INT1;	MASKABLE INTERRUPT REQUEST 1 INPUT
X1,X2;	EXTERNAL CRYSTAL,X1;SYSTEM CLOCK INPUT
A-SIG 0 TO 7;	ANALOG INPUTS
A-VREF;	REFERENCE VOLTAGE

uPD41102C-1 (NEC) (ACCESS TIME=40nS)
uPD41102C-2 (NEC) (ACCESS TIME=21nS)
uPD41102C-3 (NEC) (ACCESS TIME=21nS)
N-MOS 9080-BIT (1135x8) FIFO MEMORY
— TOP VIEW —

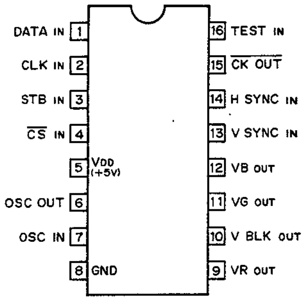

Q0 OUT 1
Q1 OUT 2
Q2 OUT 3
Q3 OUT 4
RE IN 5
RSTR IN 6
7 GND
RCK IN 8
Q4 OUT 9
Q5 OUT 10
Q6 OUT 11
Q7 OUT 12
24 D0 IN
23 D1 IN
22 D2 IN
21 D3 IN
20 WE IN
19 RSTW IN
VDD (+5V) 18
17 WCK IN
16 D4 IN
15 D5 IN
14 D6 IN
13 D7 IN

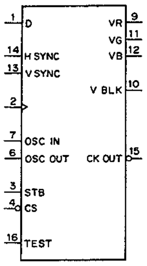

24 D0
23 D1
22 D2
21 D3
16 D4
15 D5
14 D6
13 D7
8 RCK
17 WCK
19 RSTW
6 RSTR
Q0 1
Q1 2
Q2 3
Q3 4
Q4 9
Q5 10
Q6 11
Q7 12
RE 5
WE 20

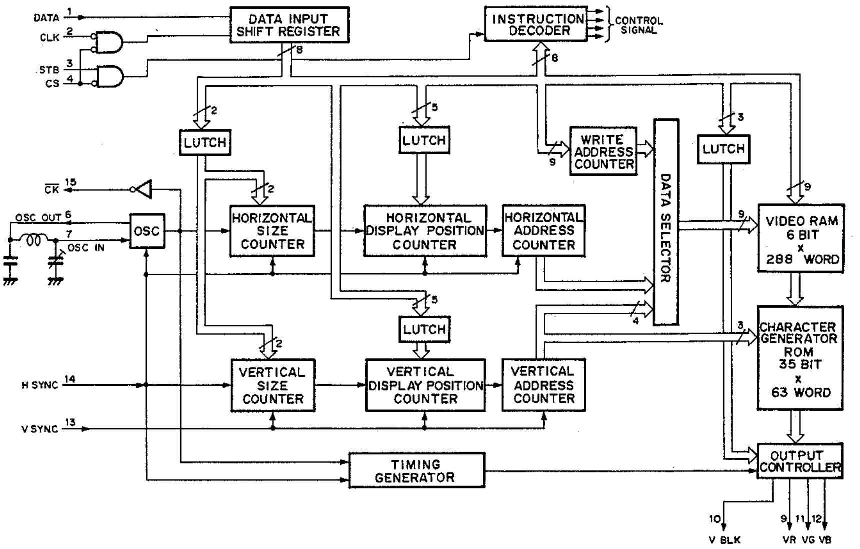
D0-D7;	DATA INPUTS
Q0-Q7;	DATA OUTPUTS
WCK;	WRITE CLOCK INPUT
RCK;	READ CLOCK INPUT
WE;	WRITE ENABLE INPUT
RE;	READ ENABLE INPUT
RSTW;	RESET WRITE INPUT
RSTR;	RESET READ INPUT


WCK 17
WRITE ADDRESS POINTER
19 RSTW
D0 24
D1 23
D2 22
D3 21
D4 16
D5 15
D6 14
D7 13
INPUT BUFFER
9080-BIT (1135x8) MEMORY CELL ARRAY
OUTPUT BUFFER
1 Q0
2 Q1
3 Q2
4 Q3
9 Q4
10 Q5
11 Q6
12 Q7
WE 20
5 RE
RCK 8
READ ADDRESS POINTER
6 RSTR

uPD6142C-001 (NEC)
C-MOS 8-BIT SERIALL INPUT CHARACTER DISPLAY
— TOP VIEW —

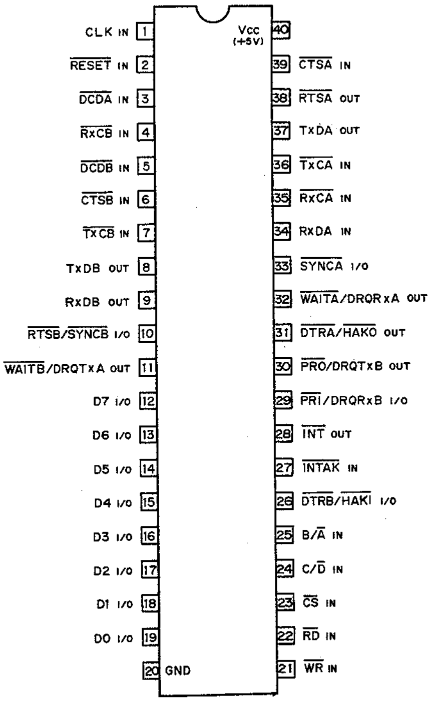

DATA IN 1
CLK IN 2
STB IN 3
CS IN 4
5 VDD (+5V)
OSC OUT 6
OSC IN 7
8 GND
16 TEST IN
15 CK OUT
14 H SYNC IN
13 V SYNC IN
12 VB OUT
11 VG OUT
10 V BLK OUT
9 VR OUT

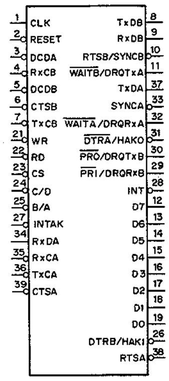

D
H SYNC
V SYNC
OSC IN
OSC OUT
STB
CS
TEST
VR
VG
VB
V BLK
CK OUT

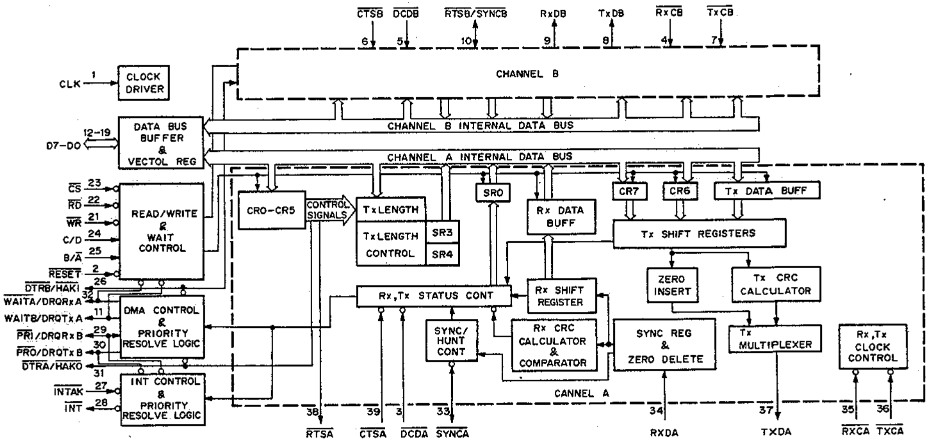

DATA
CLK
STB
CS
DATA INPUT SHIFT REGISTER
INSTRUCTION DECODER
CONTROL SIGNAL
LUTCH
WRITE ADDRESS COUNTER
DATA SELECTOR
CK
OSC OUT
OSC IN
OSC
HORIZONTAL SIZE COUNTER
HORIZONTAL DISPLAY POSITION COUNTER
HORIZONTAL ADDRESS COUNTER
VIDEO RAM 6 BIT x 288 WORD
CHARACTER GENERATOR ROM 35 BIT x 63 WORD
H SYNC
V SYNC
VERTICAL SIZE COUNTER
VERTICAL DISPLAY POSITION COUNTER
VERTICAL ADDRESS COUNTER
TIMING GENERATOR
OUTPUT CONTROLLER
V BLK
VR VG VB

D; DATA INPUT
CK OUT; EQUAL TO OUTPUT OF OSC OUT
CLK; CLOCK INPUT
CS; CHIP SELECT INPUT
H SYNC; H SYNC INPUT
OSC IN, OUT; EXTERNAL TERMINAL FOR OSC
STB; STROBE INPUT
TEST; TEST CLOCK INPUT
VB; BLUE CHARACTER DATA OUTPUT
V BLK; V BLANKING OUTPUT
VG; GREEN CHARACTER DATA OUTPUT
VR; RED CHARACTER DATA OUTPUT
V SYNC; V SYNC INPUT

uPD7201AC (NEC)
uPD7201AD (NEC)
MULTI-PROTOCOL SERIAL CONTROLLER
— TOP VIEW —


CLK IN 1
RESET IN 2
DCDA IN 3
RxCB IN 4
DCDB IN 5
CTSB IN 6
TxCB IN 7
TxDB OUT 8
RxDB OUT 9
RTSB/SYNCB I/O 10
WAITB/DRQTxA OUT 11
D7 I/O 12
D6 I/O 13
D5 I/O 14
D4 I/O 15
D3 I/O 16
D2 I/O 17
D1 I/O 18
D0 I/O 19
20 GND
40 Vcc (+5V)
39 CTSA IN
38 RTSA OUT
37 TxDA OUT
36 TxCA IN
35 RxCA IN
34 RxDA IN
33 SYNCA I/O
32 WAITA/DRQRxA OUT
31 DTRA/HAKO OUT
30 PRO/DRQTxB OUT
29 PRI/DRQRxB I/O
28 INT OUT
27 INTAK IN
26 DTRB/HAKI I/O
25 B/A IN
24 C/D IN
23 CS IN
22 RD IN
21 WR IN


CLK
RESET
DCDA
RxCB
DCDB
CTSB
TxCB
WR
RD
CS
C/D
B/A
INTAK
RxDA
RxCA
TxCA
CTSA
TxDB
RxDB
RTSB/SYNCB
WAITB/DRQTxA
TxDA
SYNCA
WAITA/DRQRxA
DTRA/HAKO
PRO/DRQTxB
PRI/DRQRxB
INT
D7
D6
D5
D4
D3
D2
D1
D0
DTRB/HAKI
RTSA


CTSB DCDB RTSB/SYNCB RxDB TxDB RxCB TxCB
CLK
CLOCK DRIVER
CHANNEL B
DATA BUS BUFFER & VECTOL REG
D7–D0
CHANNEL B INTERNAL DATA BUS
CHANNEL A INTERNAL DATA BUS
CS RD WR C/D B/A RESET
READ/WRITE & WAIT CONTROL
CR0–CR5
CONTROL SIGNALS
TxLENGTH
TxLENGTH CONTROL
SR3
SR4
SR0
Rx DATA BUFF
CR7
CR6
Tx DATA BUFF
Tx SHIFT REGISTERS
DTRB/HAKI
WAITA/DRQRxA
WAITB/DRQTxA
PRI/DRQRxB
PRO/DRQTxB
DTRA/HAKO
DMA CONTROL & PRIORITY RESOLVE LOGIC
INTAK
INT
INT CONTROL & PRIORITY RESOLVE LOGIC
Rx, Tx STATUS CONT
Rx SHIFT REGISTER
ZERO INSERT
Tx CRC CALCULATOR
SYNC/HUNT CONT
Rx CRC CALCULATOR & COMPARATOR
SYNC REG & ZERO DELETE
Tx MULTIPLEXER
Rx, Tx CLOCK CONTROL
CANNEL A
RTSA CTSA DCDA SYNCA RXDA TXDA RXCA TXCA

CLK; SYSTEM CLOCK
D7-D0; DATA BUS
CS; CHIP SELECT
WR; WRITE
RD; READ
C/D; CONTROL/DATA
B/A; CHANNEL B/CHANNEL A
INT; INTERRUPT REQUEST
INTAK; INTERRUPT ACKNOWLEDGE
PRI/DRQRxB; PRIORITY INPUT/DMA REQUEST RxB
PRO/DRQTxB; PRIORITY OUTPUT/DMA REQUEST TxB
WAITA/DRQRxA; WAIT A/DMA REQUEST RxA
WAITB/DRQTxA; WAIT B/DMA REQUEST TxA
DTRB/HAKI ; DATA TERMINAL READY/HOLD ACKNOWLEDGE INPUT
DTRA/HAKO; DATA TERMINAL READY/HOLD ACKNOWLEDGE OUTPUT
RxDA, RxDB; RECEIVE DATA A/B
TxDA, TxDB; TRANSMIT DATA A/B
RxCA, RxCB; RECEIVE CLOCK A/B
TxCA, TxCB; TRANSMIT CLOCK A/B
SYNCA; SYNCHRONIZATION A
RTSB/SYNCB; REQUEST TO SEND B/SYNCHRONIZATION B

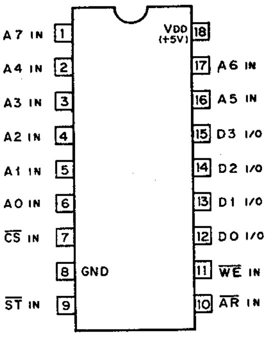
CHANNEL SELECTION

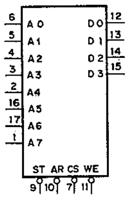
B/A	C/D	RD	WR	CS	FANCTION	
0	0	0	1	0	CHANNEL A	WRITE(TxD)
1					CHANNEL B	
0	0	1	0	0	CHANNEL A	READ(RxD)
1					CHANNEL B	
0	1	0	1	0	CHANNEL A	WRITE(COMMAND/PARAMETER·REGISTER)
1					CHANNEL B	
0	1	1	0	0	CHANNEL A	READ(STATUS/VECTER·REGISTER)
1					CHANNEL B	

CTSA, CTSB; CLEAR TO SEND A/B
DCDA, DCDB; DATA CARRIER DETECT A/B
RTSA; REQUEST TO SEND A

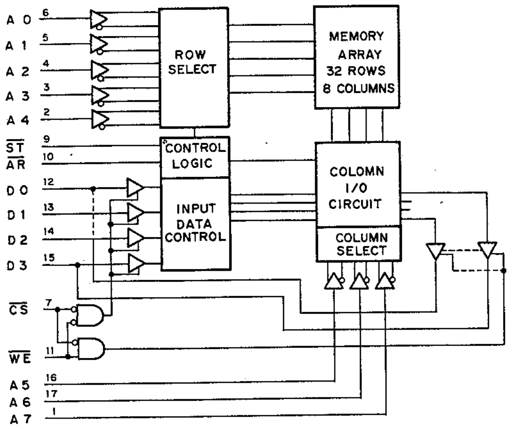
X2212P (XICOR) (ACCESS TIME = 300nS)

N-MOS 1024 (256x4)-BIT NONVOLATILE STATIC RAM
— TOP VIEW —


A7 IN
A4 IN
A3 IN
A2 IN
A1 IN
A0 IN
CS IN
GND
ST IN
VDD (+5V)
A6 IN
A5 IN
D3 I/O
D2 I/O
D1 I/O
D0 I/O
WE IN
AR IN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18


A0
A1
A2
A3
A4
A5
A6
A7
D0
D1
D2
D3
ST AR CS WE
6
5
4
3
2
16
17
1
12
13
14
15
9
10
7
11

A0 - A7 ; ADDRESS INPUTS
AR ; ARRAY RECALL
CS ; CHIP SELECT
D0 - D3 ; DATA INPUT/OUTPUT
ST ; STORE
WE ; WRITE ENABLE

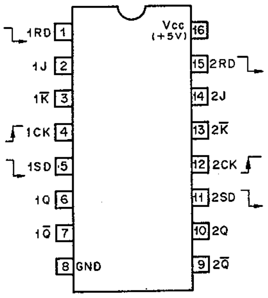

A0
A1
A2
A3
A4
ST
AR
D0
D1
D2
D3
CS
WE
A5
A6
A7
ROW SELECT
MEMORY ARRAY 32 ROWS 8 COLUMNS
CONTROL LOGIC
INPUT DATA CONTROL
COLOMN I/O CIRCUIT
COLUMN SELECT
6
5
4
3
2
9
10
12
13
14
15
7
11
16
17
1

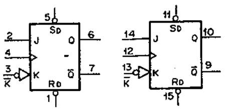
INPUTS				I/O	MODE
$\overline{CS}$	$\overline{WE}$	$\overline{AR}$	$\overline{ST}$		
1	X	1	1	HI-Z	NOT SELECTED
0	1	1	1	OUTPUT DATA	RAM READ
0	0	1	1	INPUT DATA 1	RAM WRITE "1"
0	0	1	1	INPUT DATA 0	RAM WRITE "0"
X	1	0	1	HI-Z	ARRAY RECALL
1	X	0	1	HI-Z	ARRAY RECALL
X	1	1	0	HI-Z	NONVOLATILE STORING
1	X	1	0	HI-Z	NONVOLATILE STORING

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

SN74LS109AN (TI)

TTL J-K FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —


1RD
1J
1K
1CK
1SD
1Q
1Q
GND
Vcc (+5V)
2RD
2J
2K
2CK
2SD
2Q
2Q
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


SD
J
Q
K
Q
RD
2
4
3
K
5
6
7
1
14
12
13
K
11
10
9
15

INPUTS					OUTPUTS	
SD	RD	CK	J	$\overline{K}$	Q_{n+1}	$\overline{Q_{n+1}}$
0	1	X	X	X	1	0
1	0	X	X	X	0	1
0	0	X	X	X	1*	1*
1	1	↑	0	1	Q_n	$\overline{Q_n}$
			0	0	0	1
			1	1	1	0
			1	0	$\overline{Q_n}$	Q_n
1	1	0	X	X	Q_n	$\overline{Q_n}$

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
*; NONSTABLE

SECTION D

REPLACEABLE PARTS AND OPTIONAL FIXTURE

補修用部品注意事項

(1) 安全重要部品

回路図, 分解図, 電気部品表中、⚠印及び▨で囲まれた部品は安全性を維持するために重要な部品です。これらの部品を交換するときには必ず指定の部品と交換してください。

(2) 部品の共通化

ソニーから供給される部品はセットに実装されているものと異なることがあります。これは部品の共通化, 改良等によるものです。

分解図や電気部品表には現時点での共通化された部品が記載されています。

(3) 部品の在庫

部品表中SP (Supply Code) 欄に“o”で示されている部品は交換頻度が低い部品ですので在庫していないことがあり、納期が長くなることがあります。

(4) コンデンサー, インダクター, 抵抗の単位

回路図, 分解図, 電気部品表中、特に明記したものを除き、下記の単位は省略されていることがあります。

コンデンサー ; μF
インダクター ; μH
抵抗 ; Ω

NOTES ON REPAIR PARTS

(1) Safety Related Components Warning

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to “accommodating the improved parts and／or engineering changes” or “standardization of genuine parts”.

This manual's exploded views and electrical spare parts list are indicating the part numbers of “the standardized genuine parts at present”.

(3) Stock of Parts

Parts marked with “o” in SP (Supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with “o” will be processed, but allow for additional delivery time.

(4) Units for Capacitors, Inductors and Resistors

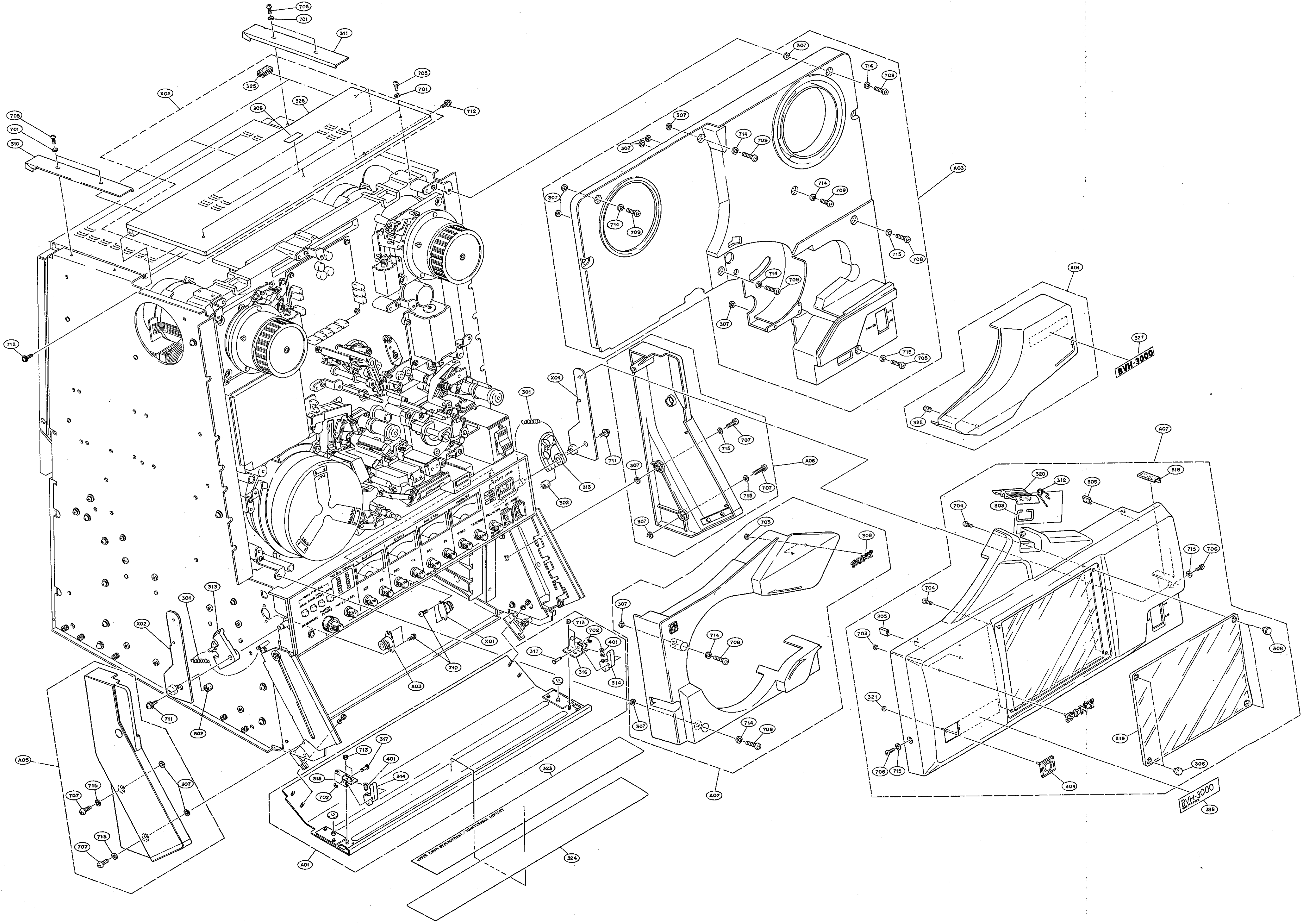
The following units may be assumed in schematic diagrams, electrical parts list and exploded views unless otherwise specified :

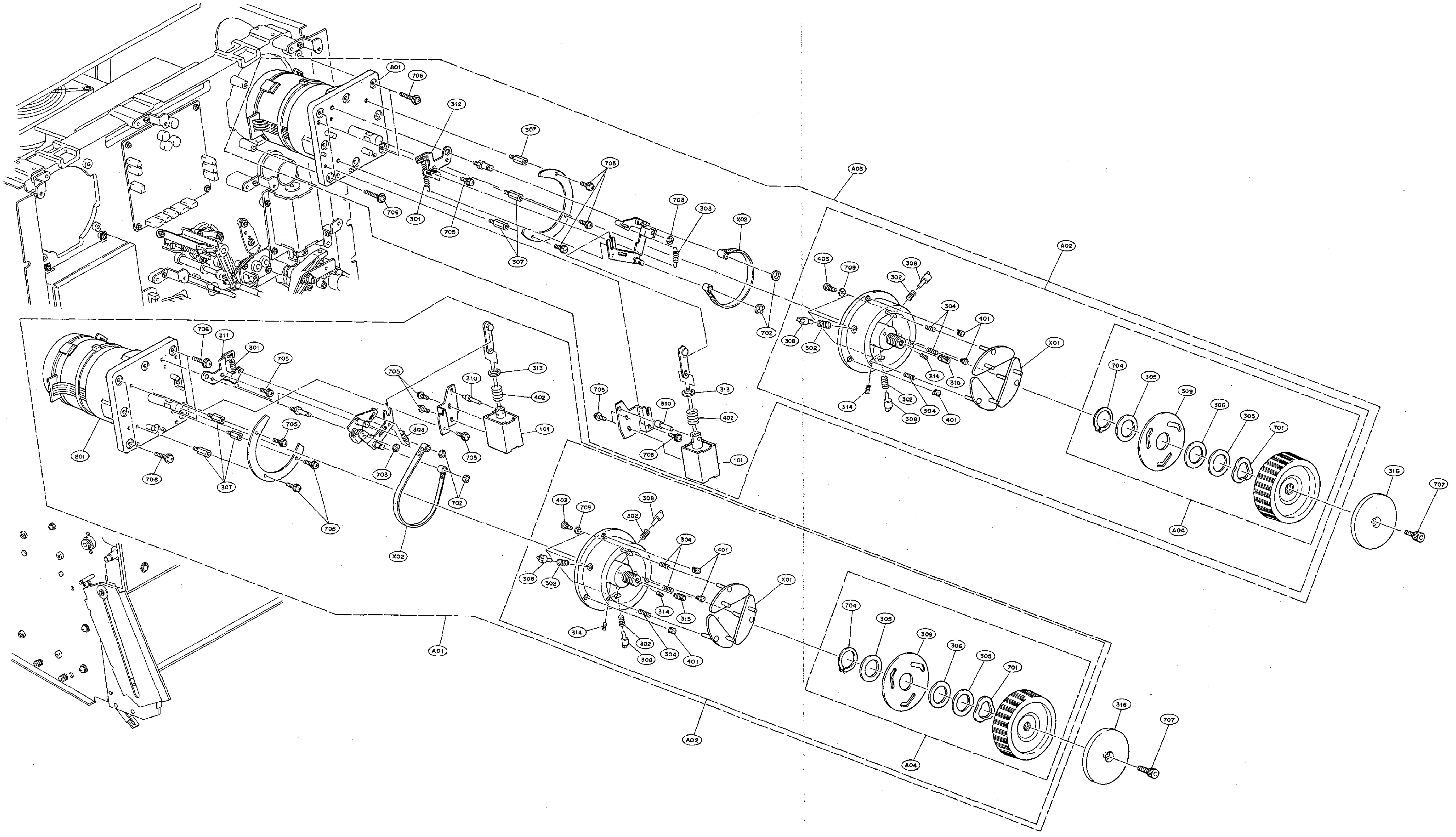
Capacitors ; μF
Inductors ; μH
Resistors ; ohm

FRONT PANEL ASSEMBLY

FRONT PANEL ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6004-163-A	o	LID ASSY, BOTTOM
A02	A-6004-165-A	o	PANEL ASSY, DRUM
A03	A-6004-166-C	o	PANEL ASSY, REEL
A04	A-6004-167-C	o	COVER ASSY, HEAD
A05	A-6004-168-A	o	COVER (LEFT) ASSY, ORNAMENTAL
A06	A-6004-169-A	o	COVER (RIGHT) ASSY, ORNAMENTAL
A07	A-6004-170-C	o	COVER ASSY, FRONT
X01	X-3714-537-1	o	DAMPER (RIGHT) ASSY
X02	X-3714-538-1	o	ARM (LEFT) ASSY, HINGE
X03	X-3714-541-1	o	DAMPER (LEFT) ASSY
X04	X-3714-542-1	o	ARM (RIGHT) ASSY, HINGE
X05	X-3714-566-1	o	BOARD (1) ASSY, TOP
301	3-425-129-01	s	SPRING, TENSION
302	3-534-255-00	o	CUSHION, BRAKE
303	3-714-872-01	s	SPRING
304	3-657-977-00	o	EMBLEM, OMEGA
305	3-673-784-00	o	CAP
306	3-673-944-00	o	NUT (M3), ORNAMENTAL
307	3-673-968-00	o	STOPPER, SCREW
308	3-675-901-00	o	EMBLEM, SONY
309	3-703-079-31	s	LABEL, CAUTION (BACK)
310	3-714-711-02	o	PLATE (LEFT), TOP
311	3-714-711-12	o	PLATE (RIGHT), TOP
312	3-714-871-01	s	SPRING
313	3-714-740-01	o	GEAR (A), DAMPER
314	3-714-754-02	o	KNOB, LOCK
315	3-714-755-02	o	PLATE (LEFT), LOCK
316	3-714-755-12	o	PLATE (RIGHT), LOCK
317	3-714-756-01	o	SHAFT, KNOB
318	3-714-788-01	o	SHEET (B), ORNAMENTAL
319	3-714-796-01	o	GLASS, WINDOW
320	3-714-797-03	o	HANDLE
321	3-840-411-00	s	NUT, PUSH
322	3-886-569-00	s	TUBE, RUBBER
323	3-714-815-01	o	SHEET, MAINTENANCE
324	3-714-849-01	o	SHEET, BOTTOM LID
325	3-711-704-01	o	COVER, RUBBER
326	3-712-712-01	o	PLATE (1), TOP
327	3-714-620-01	o	LABEL, MODEL NAME (for BVH-3000)
	3-714-690-01	o	LABEL, MODEL NAME (for BVH-3100)
	3-714-804-01	o	LABEL, MODEL NAME (for BVH-3000PS)
	3-714-813-01	o	LABEL, MODEL NAME (for BVH-3100PS)
328	3-714-752-01	o	LABEL, MODEL NAME (for BVH-3000)
	3-714-753-01	o	LABEL, MODEL NAME (for BVH-3100)
	3-714-803-01	o	LABEL, MODEL NAME (for BVH-3000PS)
	3-714-812-01	o	LABEL, MODEL NAME (for BVH-3100PS)
401	4-866-143-00	s	SPRING, COMPRESSION
701	7-623-954-41	s	WASHER M3, FIBER
702	7-624-105-04	s	STOP RING 2.3, TYPE -E
703	7-624-200-11	s	NUT, PUSH 2
704	7-682-547-04	s	SCREW +B 3X6
705	7-682-547-09	s	SCREW +B 3X6
706	7-682-562-04	s	SCREW +B 4X10
707	7-682-563-04	s	SCREW +B 4X12
708	7-682-565-04	s	SCREW +B 4X16
709	7-682-565-09	o	SCREW +B 4X16
710	7-682-948-01	s	SCREW +PSW 3X8
711	7-682-961-01	s	SCREW +PSW 4X8
712	7-682-962-01	s	SCREW +PSW 4X10
713	7-684-023-04	s	N 3, TYPE 2
714	7-688-004-12	s	W 4, MIDDLE
715	7-688-004-11	s	W 4, MIDDLE


X05
A03
A04
BVH-3000
X04
A06
SONY
A07
SONY
BVH-3000
A02
X02
X01
X03
A01
A05

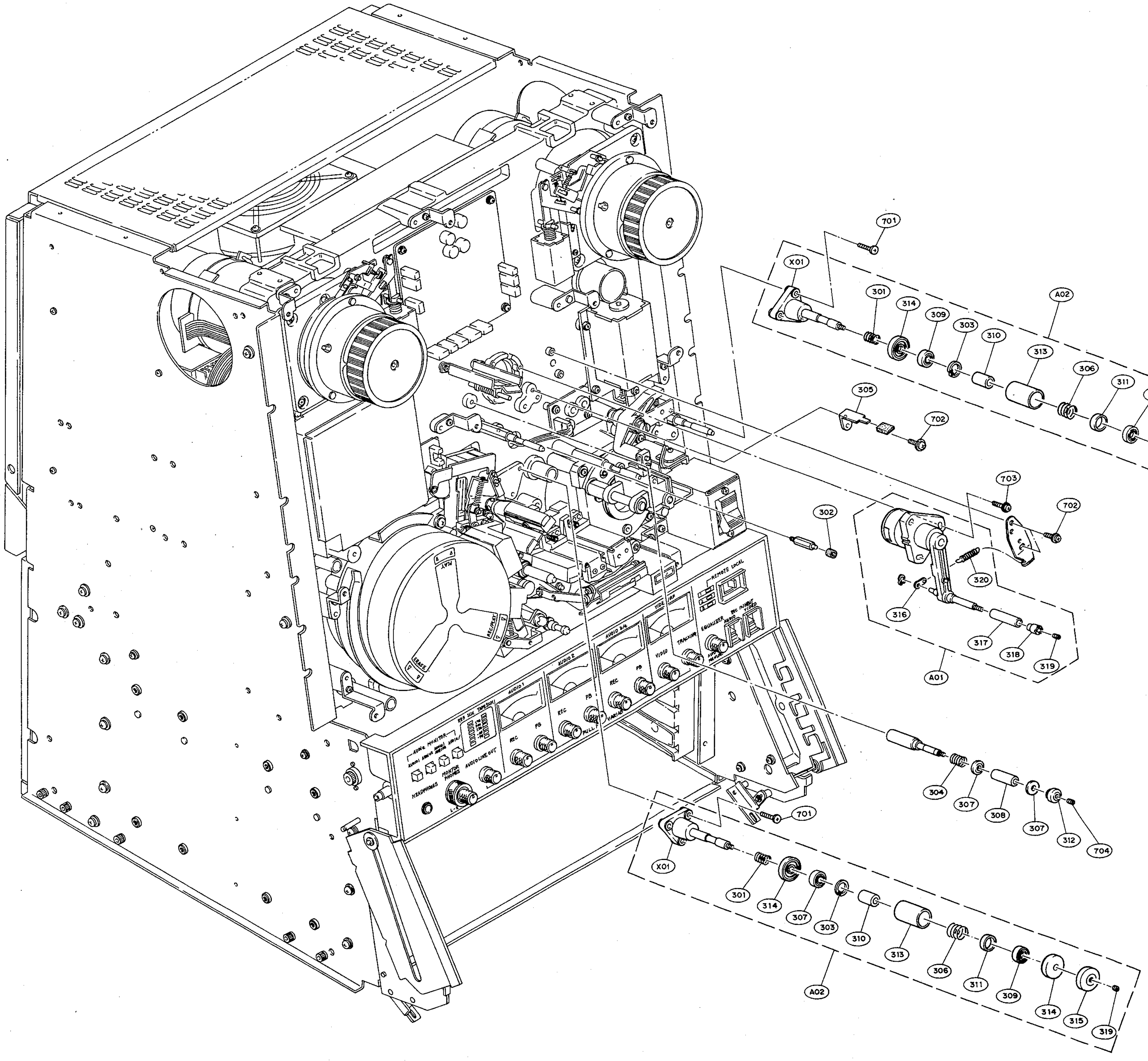

X02
A03
X01
A02
A04
X02
X01
A01
A04
A02

REEL TABLE ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6039-032-A	s	MOTOR ASSY, S REEL
A02	A-6039-027-A	o	TABLE ASSY, REEL
A03	A-6039-033-A	s	MOTOR ASSY, T REEL
A04	A-6039-031-A	o	KNOB ASSY, REEL
X01	X-3651-315-0	o	CLAW ASSY, REEL
X02	X-3673-601-0	s	BAND ASSY, BRAKE
101	1-454-304-00	s	SOLENOID, PLUNDGER
301	3-472-221-00	s	SPRING, TENSION
302	3-534-216-00	s	SPRING, COMPRESSION
303	3-639-371-00	s	SPRING, TENSION
304	3-651-375-00	o	SPRING, COMPRESSION
305	3-651-377-00	o	SHEET, FRICTION
306	3-651-378-00	o	SHEET, FRICTION ADJUSTMENT
307	3-657-845-00	o	BRACKET, PC BOARD
308	3-673-680-11	o	PIN, REEL STOPPER
309	3-673-711-02	o	PLATE, CAM, REEL
310	3-673-810-00	o	PIN, SOLENOID
311	3-680-319-01	o	PLATE (SUPPLY), STOPPER
312	3-680-320-01	o	PLATE (TAKE-UP), STOPPER
313	3-701-447-21	s	WASHER, 10
314	3-701-512-01	s	SET SCREW, DOUBLE POINT 4X8
315	3-710-204-01	s	SCREW (4X8), HEXAGON SOCKET
316	3-714-508-02	o	COVER, REEL
401	4-308-895-02	o	CUSHION, CONTROL LID
402	4-836-109-00	s	SPRING, COMPRESSION
403	4-873-347-01	s	SHAFT, ADJUSTMENT, HIGH
701	7-623-711-07	s	WASHER 20, WAVE
702	7-624-105-04	s	STOP RING 2.3, TYPE -E
703	7-624-106-04	s	STOP RING 3.0, TYPE -E
704	7-624-197-71	s	STOP RING 20, TYPE-C
705	7-682-947-01	s	SCREW +PSW 3X6
706	7-682-965-01	s	SCREW +PSW 4X16
707	7-683-452-04	s	SCREW C 6X10
709	7-688-003-01	s	W3, SMALL
801	8-835-231-01	s	MOTOR, DC BHF-2202A

GUIDES & TENSION ARM ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6042-025-A	s	ARM ASSY, S TENSION
A02	A-6046-028-A	s	ROLLER ASSY, GUIDE
X01	X-3673-610-0	o	SHAFT ASSY, GR
301	3-534-235-00	s	SPRING, COMPRESSION
302	3-534-255-00	o	CUSHION, BRAKE
303	3-625-177-00	s	RING
304	3-650-523-00	s	SPRING, COMPRESSION
305	3-651-330-00	o	PLATE, STOPPER
306	3-651-396-00	s	SPRING, COMPRESSION
307	3-651-427-03	s	FLANGE, TAPE GUIDE
308	3-651-428-00	s	GUIDE, TAPE
309	3-656-948-00	s	BEARING, BALL
310	3-673-616-00	s	COLLAR, GR
311	3-673-617-00	o	COLLAR, RETAINER, PRE-LOAD
312	3-673-647-00	o	CAP (A)
313	3-673-660-00	o	ROLLER, GUIDE
314	3-673-662-00	o	FLANGE, GR
315	3-673-663-00	o	FLANGE, GR UPPER
316	3-674-636-00	s	PLATE, HOOK, SPRING
317	3-680-331-01	s	COLLAR, S TENTION
318	3-680-332-01	s	CAP, S TENSION
319	3-701-505-01	s	SET SCREW, DOUBLE POINT 3X3
320	3-714-524-02	o	SPRING, TENSION
701	7-682-652-01	s	SCREW +PS 3X16
702	7-682-948-01	s	SCREW +PSW 3X8
703	7-682-951-01	s	SCERW +PSW 3X14
704	7-683-237-01	s	SET SCREW, FLAT POINT 3X3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X01
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AUDIO 2
REC
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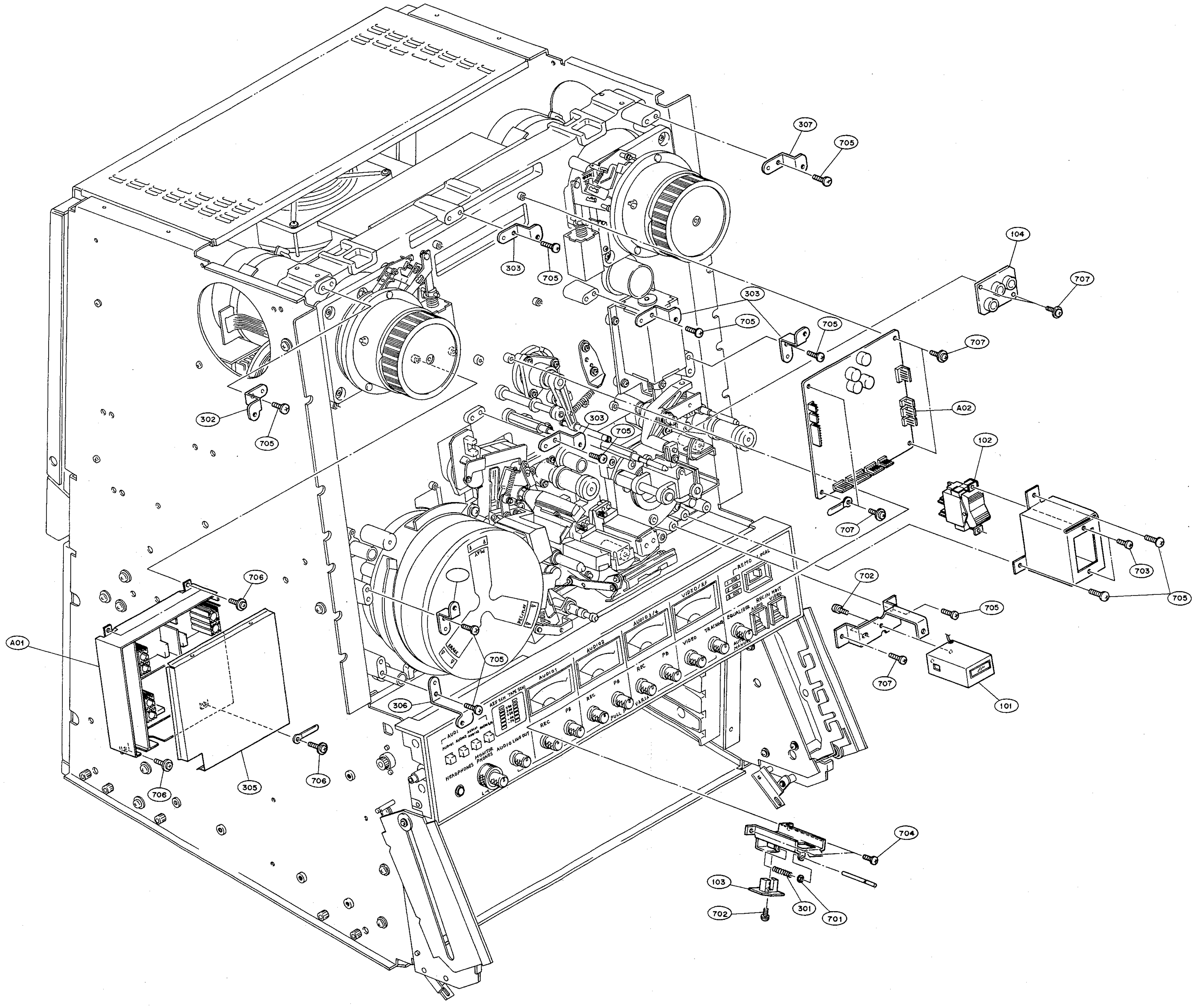
VIDEO
TRACKING
EQUALIZER
REMOTE LOCAL
HEADPHONES
AUDIO LINE OUT


A02
A01

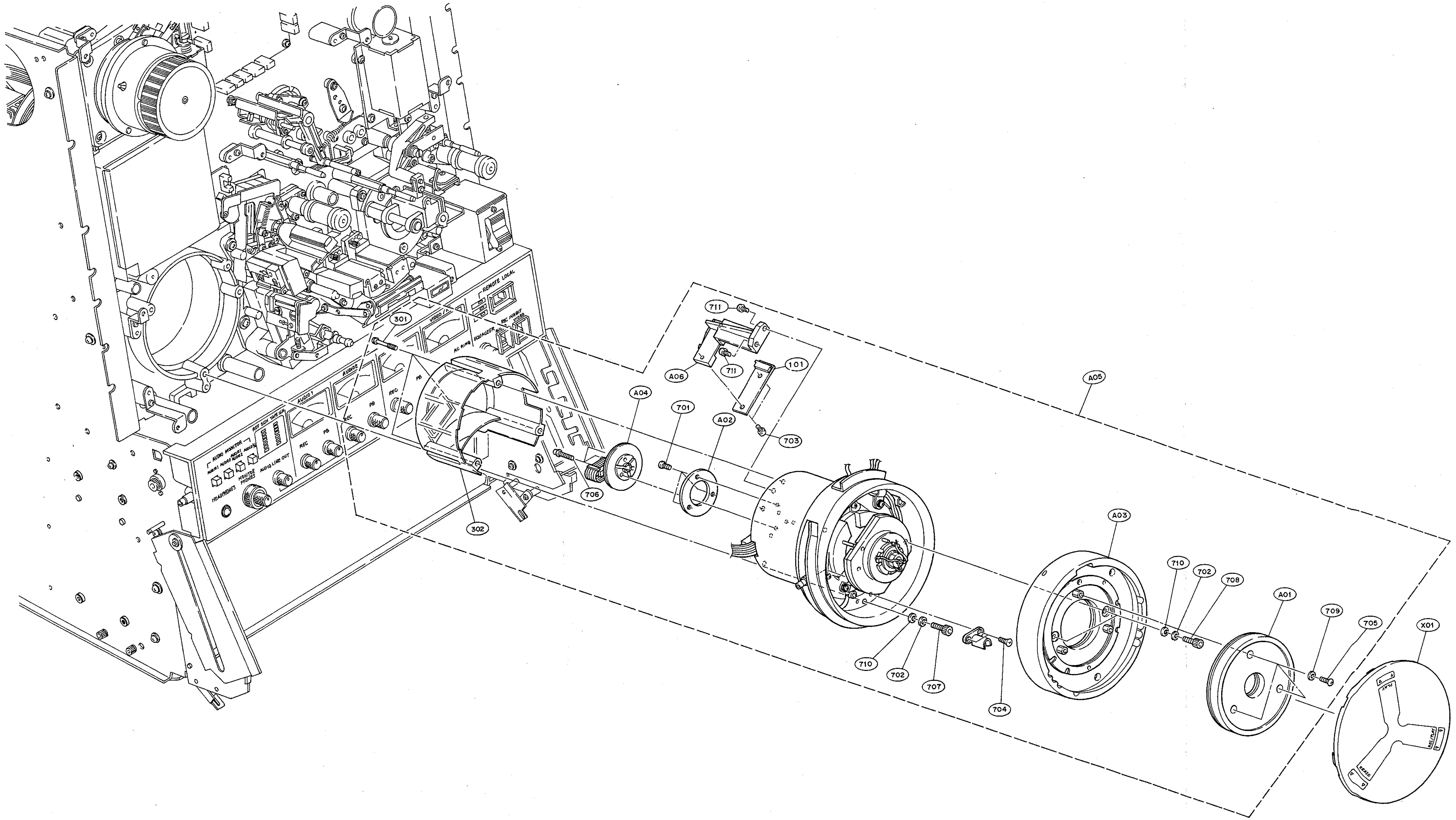
PC BOARDS ON FRONT, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6011-109-A	o	COMPLETE PCB, RP-32 (for BVH-3000)
	A-6011-112-A	o	COMPLETE PCB, RP-32 (for BVH-3100)
A02	A-6025-102-A	o	COMPLETE PCB, DS-19
101	1-548-601-11	s	COUNTER, ELECTROMAGNETIC (SMALL)
102	⚠ 1-570-936-11	s	SWITCH, ROCKER (AC POWER)
103	1-621-118-11	o	PC BOARD, PS-143
104	1-621-127-11	o	PC BOARD, BC-12
301	3-544-222-01	s	SPRING, COMPRESSION
302	3-673-677-00	o	BRACKET (1), PANEL
303	3-673-678-00	o	BRACKET (2), PANEL
304	3-673-679-01	o	BRACKET (3), PANEL
305	3-673-874-02	o	COVER, SHIELD, RP-09
306	3-714-710-01	o	BRACKET (4), PANEL
307	3-714-817-01	o	BRACKET (5), PANEL
701	7-624-105-04	s	STOP RING 2.3, TYPE -E
702	7-682-646-01	s	SCREW +PS 3X5
703	7-682-647-01	s	SCREW +PS 3X6
704	7-682-648-01	s	SCREW +PS 3X8
705	7-682-661-01	s	SCREW +PS 4X8
706	7-682-947-01	s	SCREW +PSW 3X6
707	7-682-948-01	s	SCREW +PSW 3X8

HEAD DRUM ASSEMBLY

HEAD DRUM ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6011-061-A	s	COMPLETE PCB, DR-13
A02	A-6026-054-A	o	MOUNTED PCB, SL-07
A03	A-6052-096-A	s	UPPER DRUM ASSY, DMR-33-R (for BVH-3000)
	A-6052-099-A	s	UPPER DRUM ASSY, DMR-34-R (for BVH-3000PS)
	A-6052-095-A	s	UPPER DRUM ASSY, DMR-35-R (for BVH-3100)
	A-6052-100-A	s	UPPER DRUM ASSY, DMR-36-R (for BVH-3100PS)
A04	A-6053-043-A	s	BRUSH, SLIPRING ASSY
A05	A-6050-477-A	s	HEAD DRUM ASSY, DMH-33A-R (for BVH-3000)
	A-6050-484-A	s	HEAD DRUM ASSY, DMH-34A-R (for BVH-3000PS)
	A-6050-476-A	s	HEAD DRUM ASSY, DMH-35A-R (for BVH-3100)
	A-6050-485-A	s	HEAD DRUM ASSY, DMH-36A-R (for BVH-3100PS)
A06	A-6053-046-A	o	SUPPORT ASSY SR
X01	X-3714-525-2	s	LID ASSY, DRUM
101	1-621-271-12	s	SR-36 BOARD
301	3-673-432-01	o	SCREW M3X20, COVER
302	3-673-434-00	o	COVER, SLIPRING
701	7-621-770-67	s	SCREW +B 2.6X6
702	7-623-210-22	s	SW4
703	7-682-147-13	s	SCREW +P 3X6
704	7-682-248-13	s	SCREW +K 3X8
705	7-682-548-04	s	SCREW +B 3X8
706	7-682-650-01	s	SCREW +PS 3X12
707	7-683-423-04	s	SCREW C 4X16
708	7-683-422-04	s	SCREW C 4X14
709	7-688-003-13	s	W3
710	7-688-004-03	s	W4
711	7-682-547-02	s	SCREW +B 3X6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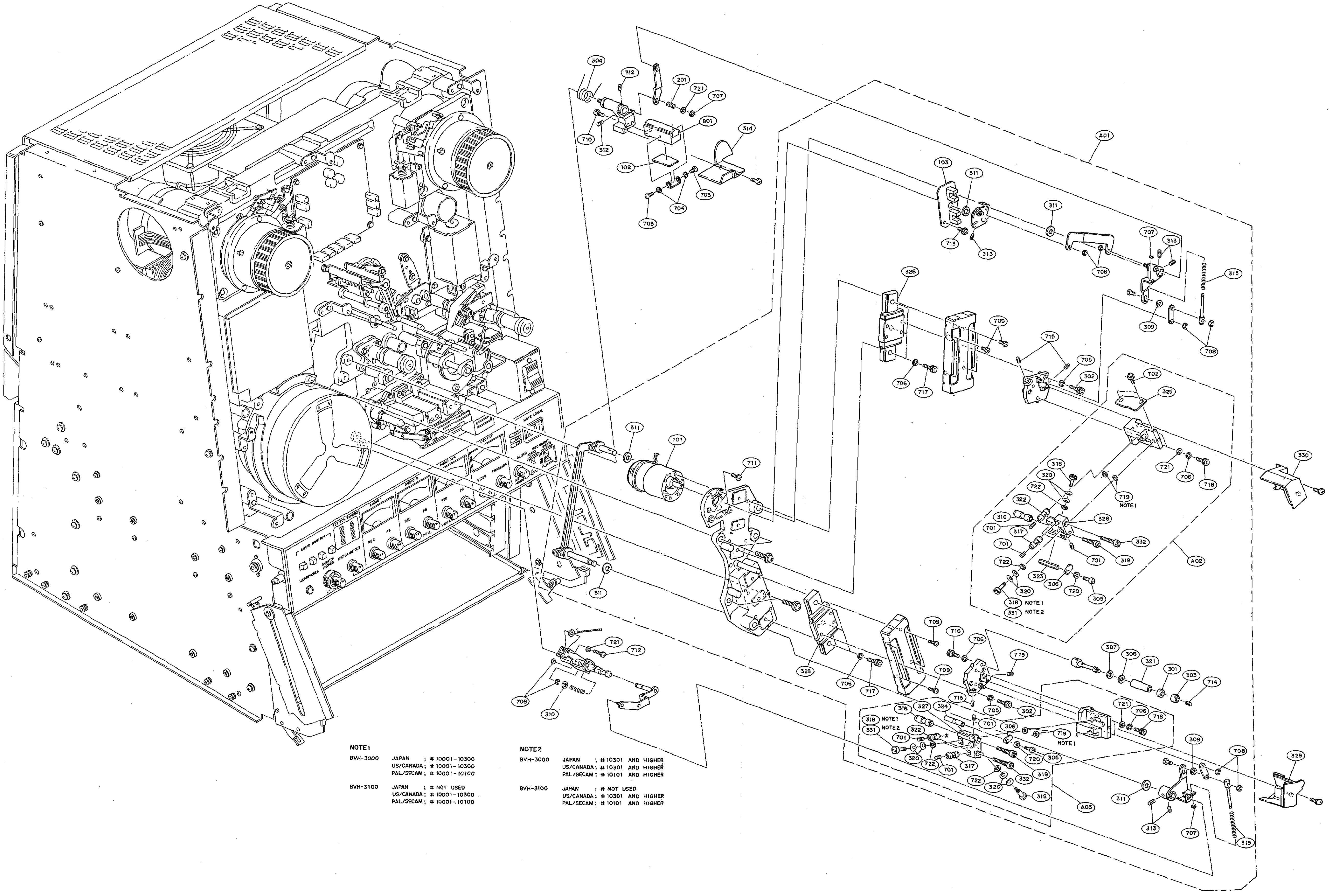
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NOTE1

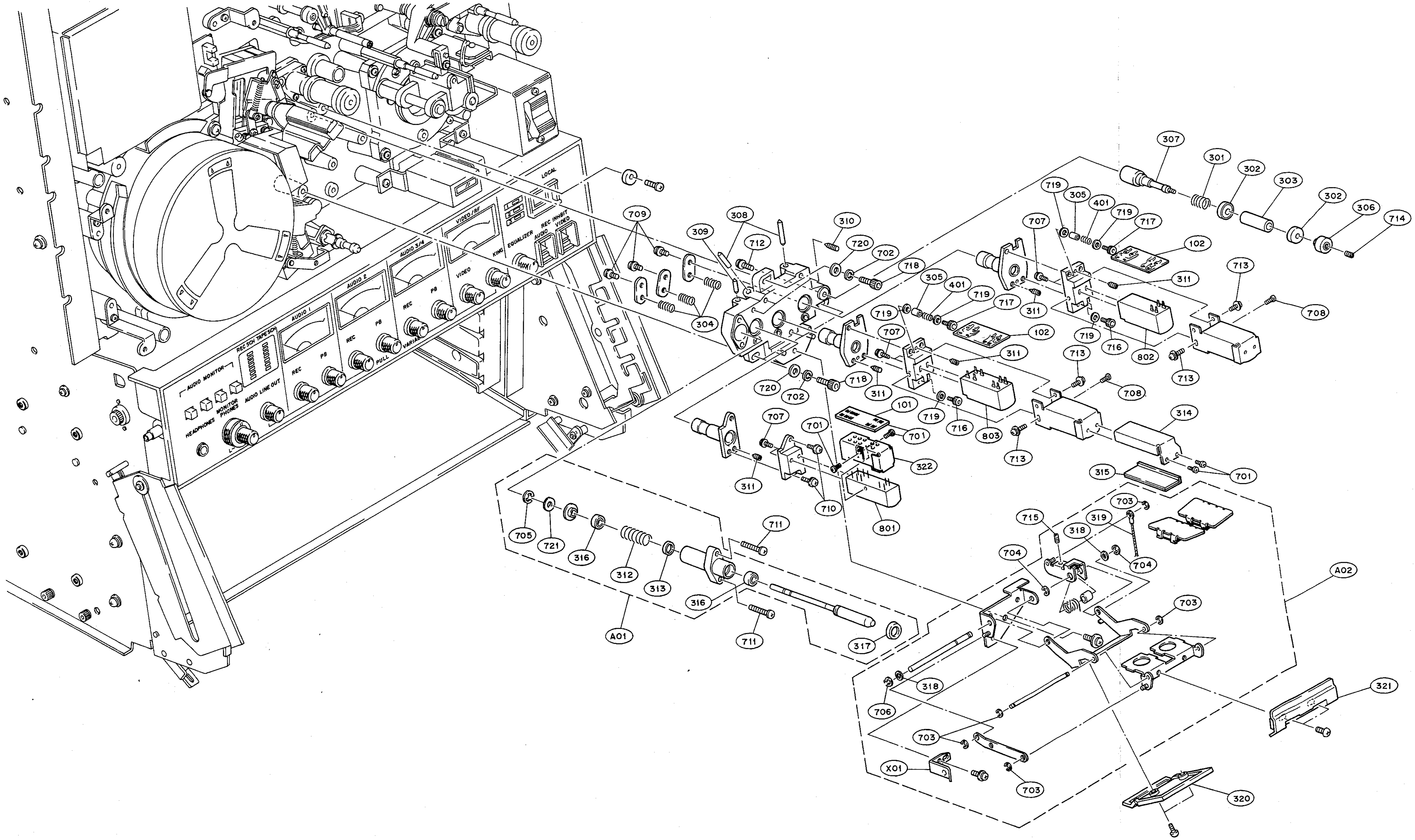
BVH-3000 JAPAN ; # 10001-10300
US/CANADA ; # 10001-10300
PAL/SECAM ; # 10001-10100

BVH-3100 JAPAN ; # NOT USED
US/CANADA ; # 10001-10300
PAL/SECAM ; # 10001-10100

NOTE2

BVH-3000 JAPAN ; # 10301 AND HIGHER
US/CANADA ; # 10301 AND HIGHER
PAL/SECAM ; # 10101 AND HIGHER

BVH-3100 JAPAN ; # NOT USED
US/CANADA ; # 10301 AND HIGHER
PAL/SECAM ; # 10101 AND HIGHER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HEADPHONES
MONITOR PHONES
AUDIO LINE OUT
REC
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AUDIO 1
AUDIO 2
AUDIO 3/4
VIDEO/RF
VIDEO
EQUALIZER
REC INHIBIT
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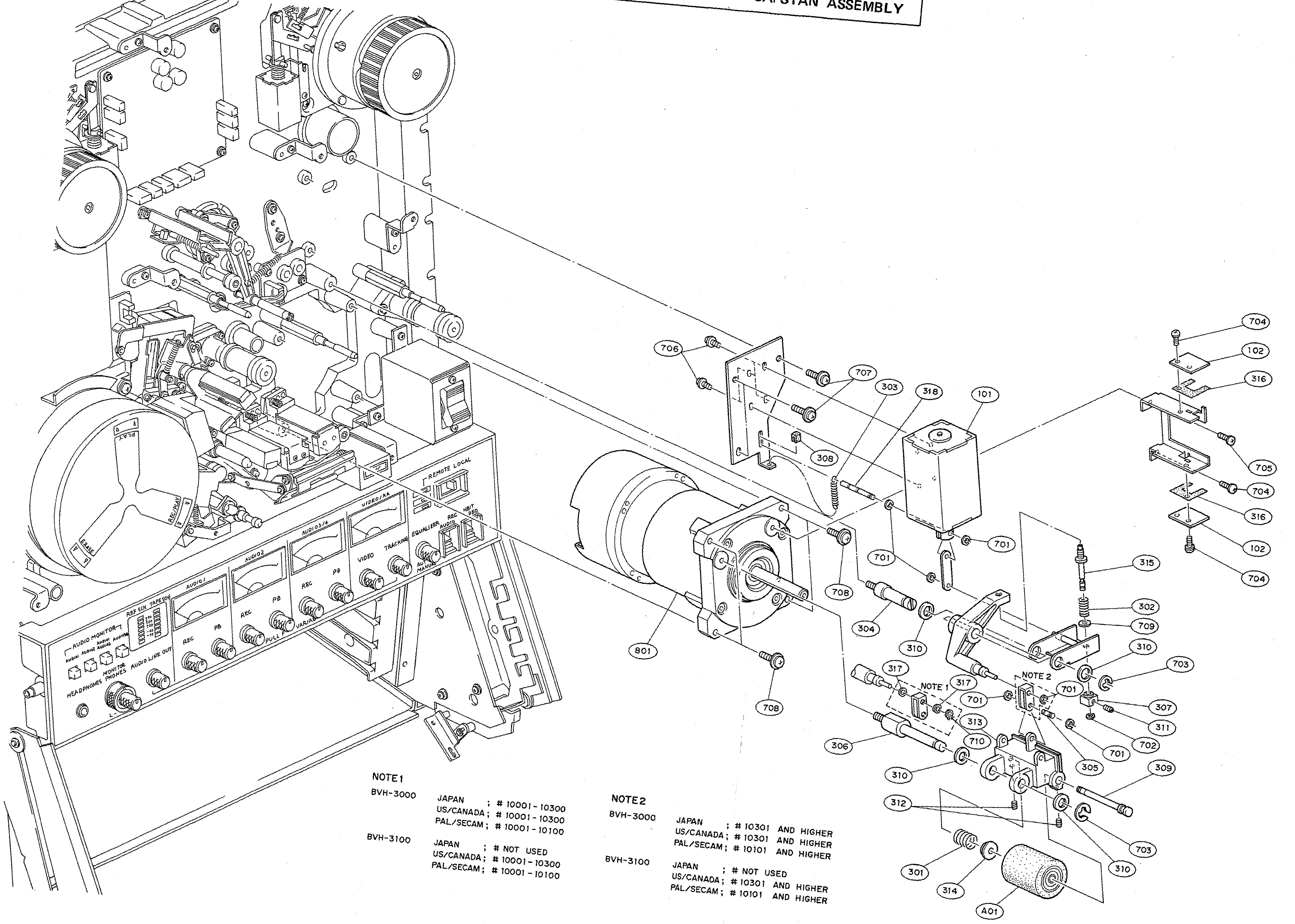
VARIABLE

CAPSTAN ASSEMBLY

CAPSTAN ASSEMBLY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A01
REMOTE LOCAL
AUDIO MONITOR
HEADPHONES
MONITOR PHONES
AUDIO LINE OUT
AUDIO 1
AUDIO 2
AUDIO 3/4
VIDEO/RA
REC
PB
PULL
VARIABLE
VIDEO
TRACKING
EQUALIZER
REC AUDIO
ERASE
REC/PLAY

NOTE 1

BVH-3000
JAPAN ; # 10001 - 10300
US/CANADA ; # 10001 - 10300
PAL/SECAM ; # 10001 - 10100

BVH-3100
JAPAN ; # NOT USED
US/CANADA ; # 10001 - 10300
PAL/SECAM ; # 10001 - 10100

NOTE 2

BVH-3000
JAPAN ; # 10301 AND HIGHER
US/CANADA ; # 10301 AND HIGHER
PAL/SECAM ; # 10101 AND HIGHER

BVH-3100
JAPAN ; # NOT USED
US/CANADA ; # 10301 AND HIGHER
PAL/SECAM ; # 10101 AND HIGHER

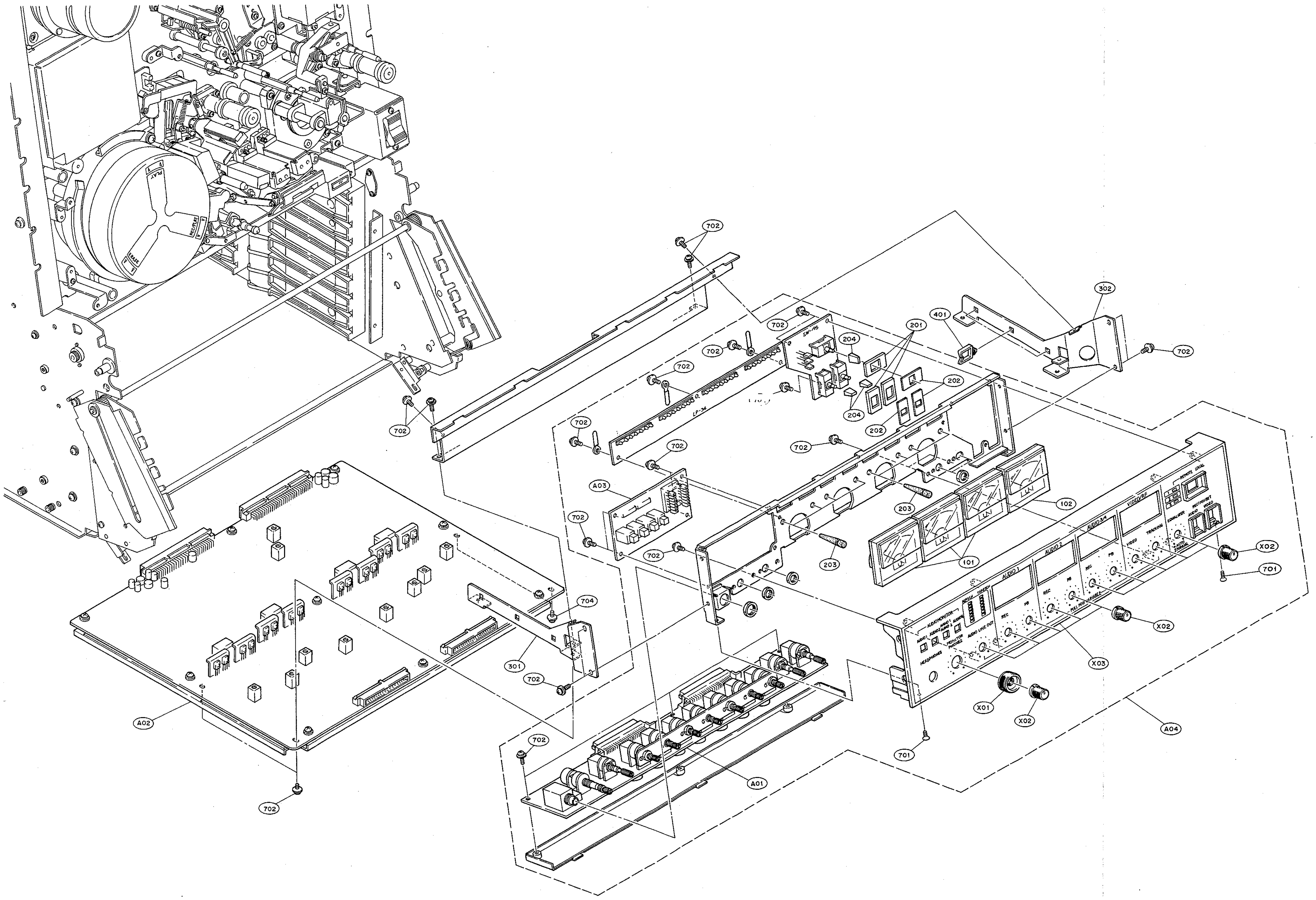
CAPSTAN ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6035-036-A	s	ROLLER ASSY
101	1-454-432-11	s	SOLENOID, PLUNGER
102	1-621-118-11	o	PC BOARD, PS-143
301	3-530-045-00	s	SPRING, COMPRESSION
302	3-534-236-00	s	SPRING, COMPRESSION
303	3-648-065-00	o	SPRING, TENSION
304	3-673-656-00	o	SHAFT, LEVER
305	3-673-658-00	o	PIN (2), JOINT
306	3-673-659-00	o	SHAFT, PINCH ROLLER
307	3-673-751-00	o	STOPPER
308	3-673-795-00	o	CUSHION
309	3-673-807-00	o	SHAFT, PINCH ROLLER
310	3-701-445-21	s	WASHER, 7
311	3-701-505-01	o	SET SCREW, DOUBLE POINT 3X3
312	3-701-508-00	s	SET SCREW, DOUBLE POINT 3X6
313	3-714-533-01	o	PINCH LEVER
314	3-714-601-01	o	RETAINER, BEARING
315	3-714-605-01	o	SHAFT, PRESS ADJUSTMENT
316	3-714-609-01	o	SHEET, SENSOR FITTING
317	3-701-439-01	o	WAHER, 3, POLY
318	3-714-535-01	o	SHAFT, JOINT SOLENOID
701	7-624-105-04	s	STOP RING 2.3, TYPE -E
702	7-624-106-04	s	STOP RING 3.0, TYPE -E
703	7-624-110-04	s	STOP RING 6.0, TYPE -E
704	7-682-648-01	s	SCREW +PS 3X8
705	7-682-662-01	s	SCREW +PS 4X10
706	7-682-947-01	s	SCREW +PSW 3X6
707	7-682-962-01	s	SCREW +PSW 4X10
708	7-682-965-01	s	SCREW +PSW 4X16
709	7-688-004-11	s	W 4, MIDDLE
710	7-624-193-08	o	STOP RING 3.0, GRIP
801	8-835-232-01	s	MOTOR, DC BHF-2301A

LEVEL CONTROL PANEL ASSEMBLY

LEVEL CONTROL PANEL ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6013-078-A	o	COMPLETE PCB, VR-51 (for J/UC/PS)
	A-6013-090-A	o	COMPLETE PCB, VR-51 (for PS-A4)
A02	A-6013-079-A	o	COMPLETE PCB, AU-88 (for J/UC)
	A-6013-088-A	o	COMPLETE PCB, AU-88 (for PS)
	A-6013-089-A	o	COMPLETE PBC, AU-88 (for PS-A4)
A03	A-6026-062-A	o	MOUNTED PCB, MS-21
A04	A-6031-084-A	o	PANEL (MAIN) ASSY, METER (for J/UC/PS)
	A-6031-085-A	o	PANEL (MAIN) ASSY, METER (for PS-A4)
X01	X-3668-056-0	s	KNOB (W) ASSY, CONTROL
X02	X-3673-650-2	s	KNOB (2) ASSY, CONTROL
X03	X-3714-533-1	o	PANEL ASSY, METER
101	1-520-450-12	s	METER, VU
102	1-520-451-12	s	METER, (VIDEO/RF)
201	2-252-615-00	o	CUSHION, SW
202	2-252-623-02	o	PLATE, SWITCH, LEVER
203	2-274-908-00	o	FOOT (REAR), RUBBER
204	2-360-734-00	s	KNOB (3), LEVER SWITCH
301	3-714-696-01	o	SUPPORT (LEFT), METER
302	3-714-697-01	o	SUPPORT (RIGHT), METER
401	4-309-753-00	o	HOLDER, WIRE
701	7-682-246-09	s	SCREW +K 3X5
702	7-682-947-01	s	SCREW +PSW 3X6
703	7-682-962-01	s	SCREW +PSW 4X10
704	7-682-948-01	s	SCREW +PSW 3X8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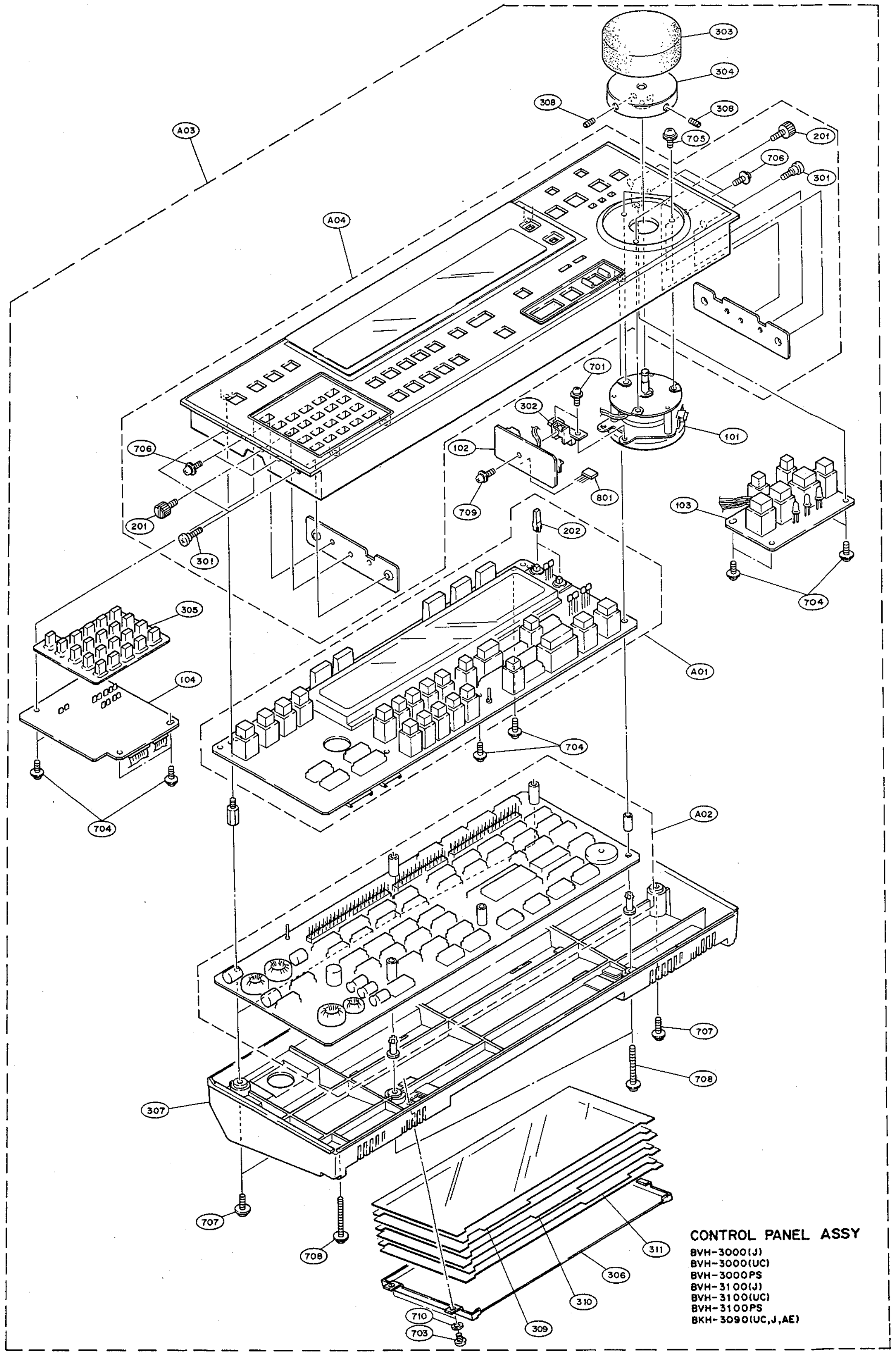
X02
X02
X03
X01
X02
A04
A02
A01
AUDIO 1
AUDIO 2
AUDIO 3/4
VIDEO/SC
REC
PB
HEADPHONES
TRACKING
REMOTE LOCAL

CONTROL PANEL ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6017-135-A	o	COMPLETE PCB, KY-103
A02	A-6017-136-A	o	COMPLETE PCB, KC-14
A03	A-6031-083-A	s	CONTROL PANEL (MAIN) ASSY
A04	A-6031-074-A	o	PANEL ASSY, CONTROL
101	1-515-618-12	s	CLUTCH, ELECTOMAGNETIC
102	1-618-489-11	o	PC BOARD, DET-3
103	1-621-121-12	o	PC BOARD, DP-63
104	1-621-122-11	o	PC BOARD, EN-55
201	3-714-870-01	s	SCREW ORNAMENTAL
202	2-252-640-00	s	KNOB, TACT SWITCH
301	3-486-138-00	s	SCREW
302	3-673-694-00	o	HOLDER, DME
303	3-714-595-01	o	KNOB, DIAL
304	3-714-596-01	o	DIAL
305	3-714-628-01	o	KEY, TEN
306	3-714-801-01	o	HOLDER, MENU
307	3-714-802-01	o	LID, REAR, CONTROL PANEL
308	3-701-507-01	o	SET SCREW, M3X5
309	3-714-823-01	o	SHEET, MENU (B)
310	3-714-824-01	o	SHEET, MENU (A)
311	3-714-825-02	o	SHEET, MENU (C)
701	7-621-759-45	s	SCREW +PSW 2.6X6
703	7-682-547-09	s	SCREW +B 3X6
704	7-682-947-01	s	SCREW +PSW 3X6
705	7-682-948-01	s	SCREW +PSW 3X8
706	7-682-948-09	s	SCREW +PSW 3X8
707	7-682-949-01	s	SCREW +PSW 3X10
708	7-682-955-01	s	SCREW +PSW 3X30
709	7-685-533-14	s	SCREW, BTP 2.6X6
710	7-688-003-12	s	W3, MIDDLE
801	8-745-211-00	s	DME DM-211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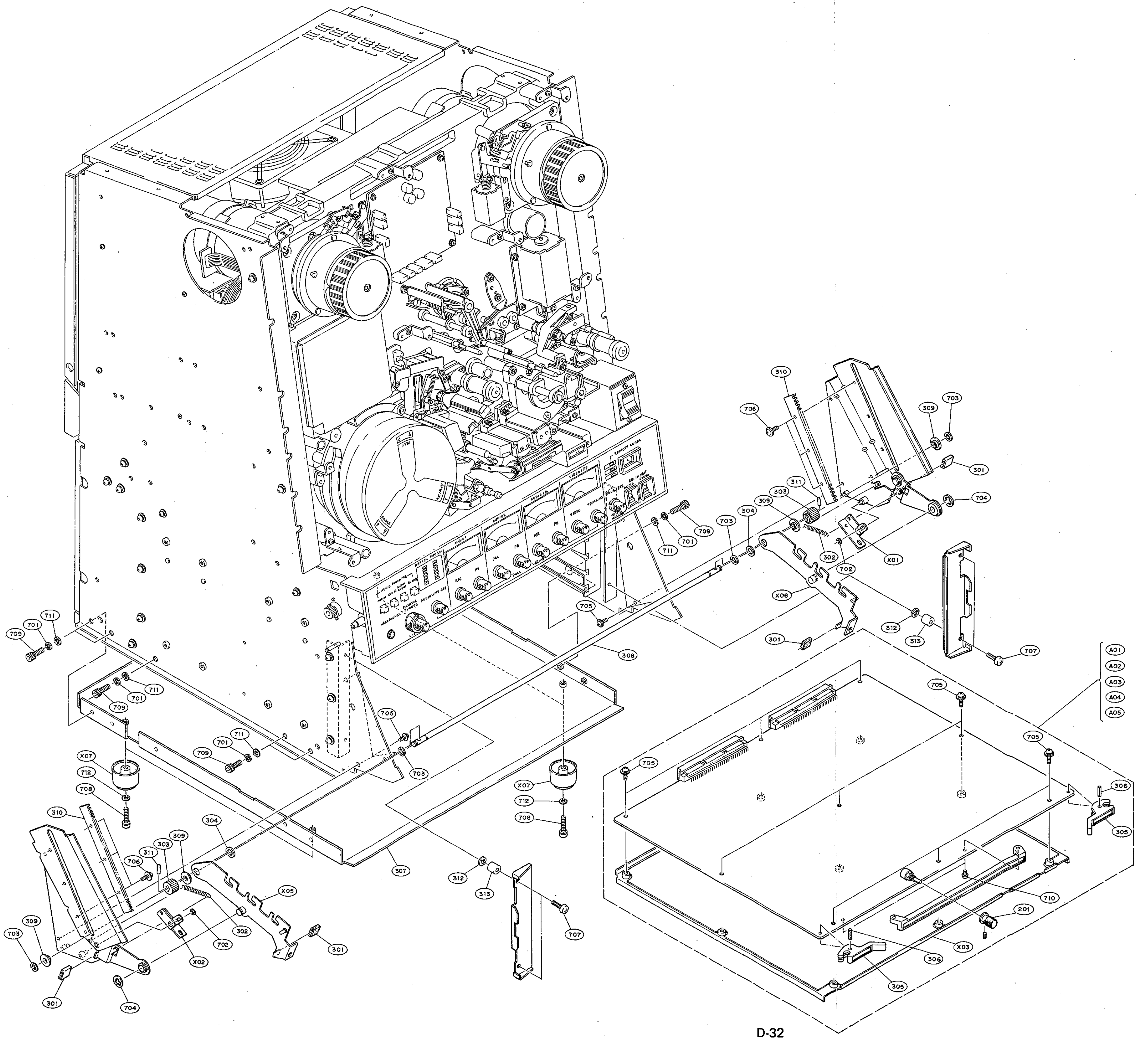
CONTROL PANEL ASSY
BVH-3000(J)
BVH-3000(UC)
BVH-3000PS
BVH-3100(J)
BVH-3100(UC)
BVH-3100PS
BKH-3090(UC,J,AE)

PANEL BRACKET BOARD ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6011-110-A	o	COMPLETE PCB, VO-16 (for J/UC)
	A-6011-115-A	o	COMPLETE PCB, VO-16 (for PS)
A02	A-6015-102-A	o	COMPLETE PCB, RD-6 (for J/UC)
	A-6015-106-A	o	COMPLETE PCB, RD-7 (for PS)
A03	A-6015-103-A	o	COMPLETE PCB, SV-90
A04	A-6017-137-A	o	COMPLETE PCB, SY-103 (for J/UC)
	A-6017-146-A	o	COMPLETE PCB, SY-103 (for PS)
A05	A-6025-103-A	o	COMPLETE PCB, CK-26 (for J/UC)
	A-6025-114-A	o	COMPLETE PCB, CK-27 (for PS)
X01	X-3673-658-0	o	SUPPORT (RIGHT) ASSY, STAY
X02	X-3673-660-0	o	SUPPORT (LEFT) ASSY, STAY
X03	X-3714-529-1	o	PLATE ASSY, SHIELD
X05	X-3714-550-2	o	SUPPORT (LEFT) ASSY, PANEL
X06	X-3714-551-2	o	SUPPORT (RIGHT) ASSY, PANEL
X07	X-4836-202-X	s	FOOT ASSY
201	2-282-313-02	s	KNOB, VR
301	3-483-026-00	o	RETAINER, THRUST, MOTOR
302	3-550-705-00	o	SPRING, TENSION
303	3-668-306-00	s	GEAR (D)
304	3-701-444-21	s	WASHER, 6
305	3-714-634-01	o	LEVER, PC BOARD
306	3-714-691-01	o	PIN, SPRING
307	3-714-723-02	o	BOARD, BOTTOM
308	3-714-766-01	o	SHAFT, CONTROL PANEL DRIVING
309	3-714-767-01	o	BEARING, SLIDE
310	3-714-768-01	o	RACK
311	3-703-358-03	o	PIN, PARALLEL
312	3-650-537-00	o	W4 (94V-2)
313	3-714-855-11	o	SPACER, REAR PANEL
701	7-623-212-22	s	SW 5,TYPE 2
702	7-624-105-04	s	STOP RING 2.3, TYPE -E
703	7-624-109-04	s	STOP RING 5.0, TYPE -E
704	7-624-111-04	s	STOP RING 7.0, TYPE -E
705	7-682-948-01	s	SCREW +PSW 3X8
706	7-682-949-09	s	SCREW +PSW 3X10
707	7-682-565-09	s	SCREW +B 4X16
708	7-682-666-09	s	SCREW +PS 4X20
709	7-683-436-04	s	SCERW C 5X12
710	7-685-533-19	s	SCREW, +BTP 2.6X6
711	7-688-005-01	s	W5, SMALL
712	7-688-004-11	s	W4, MIDDLE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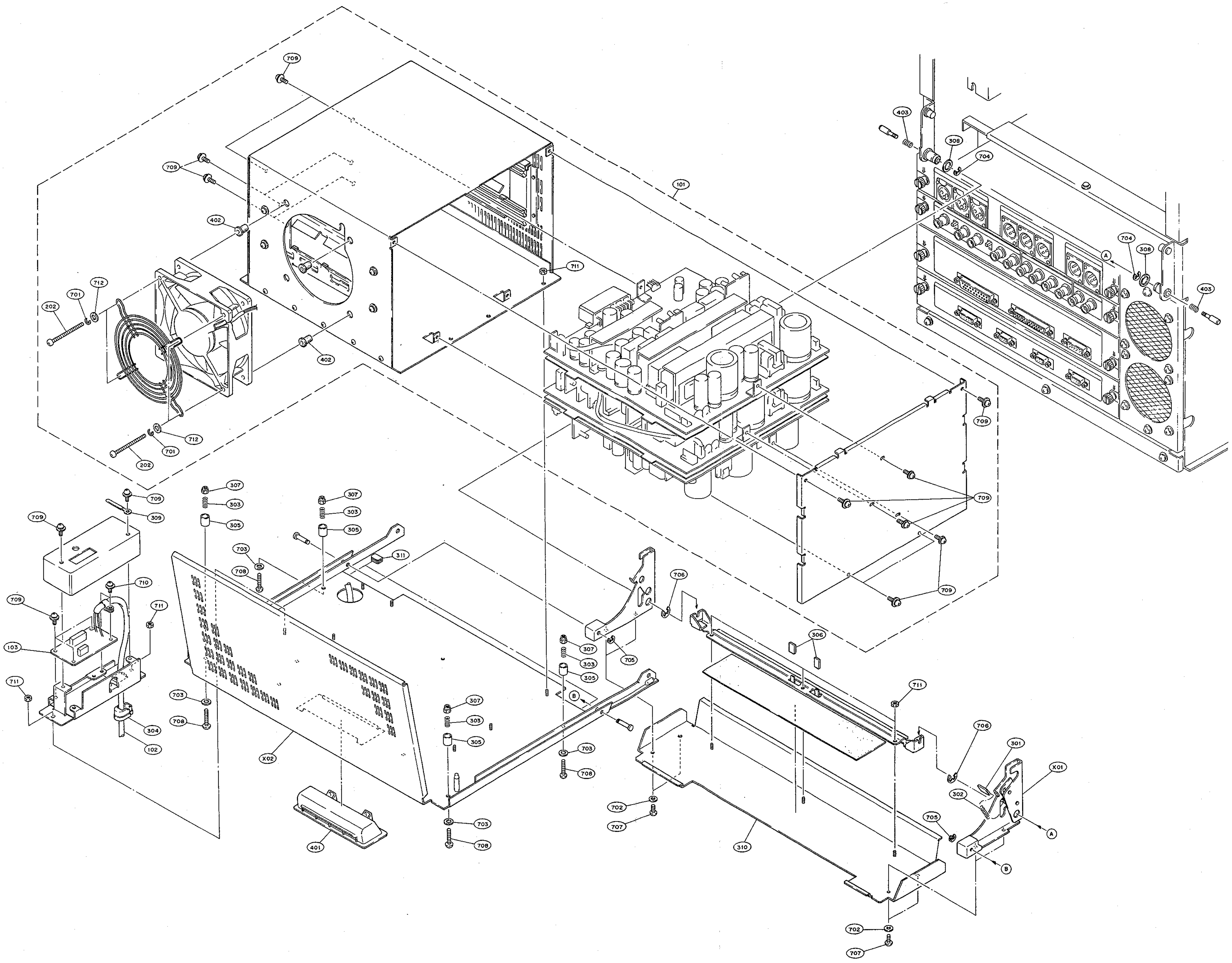
POWER SUPPLY ASSEMBLY POWER SUPPLY ASSEMBLY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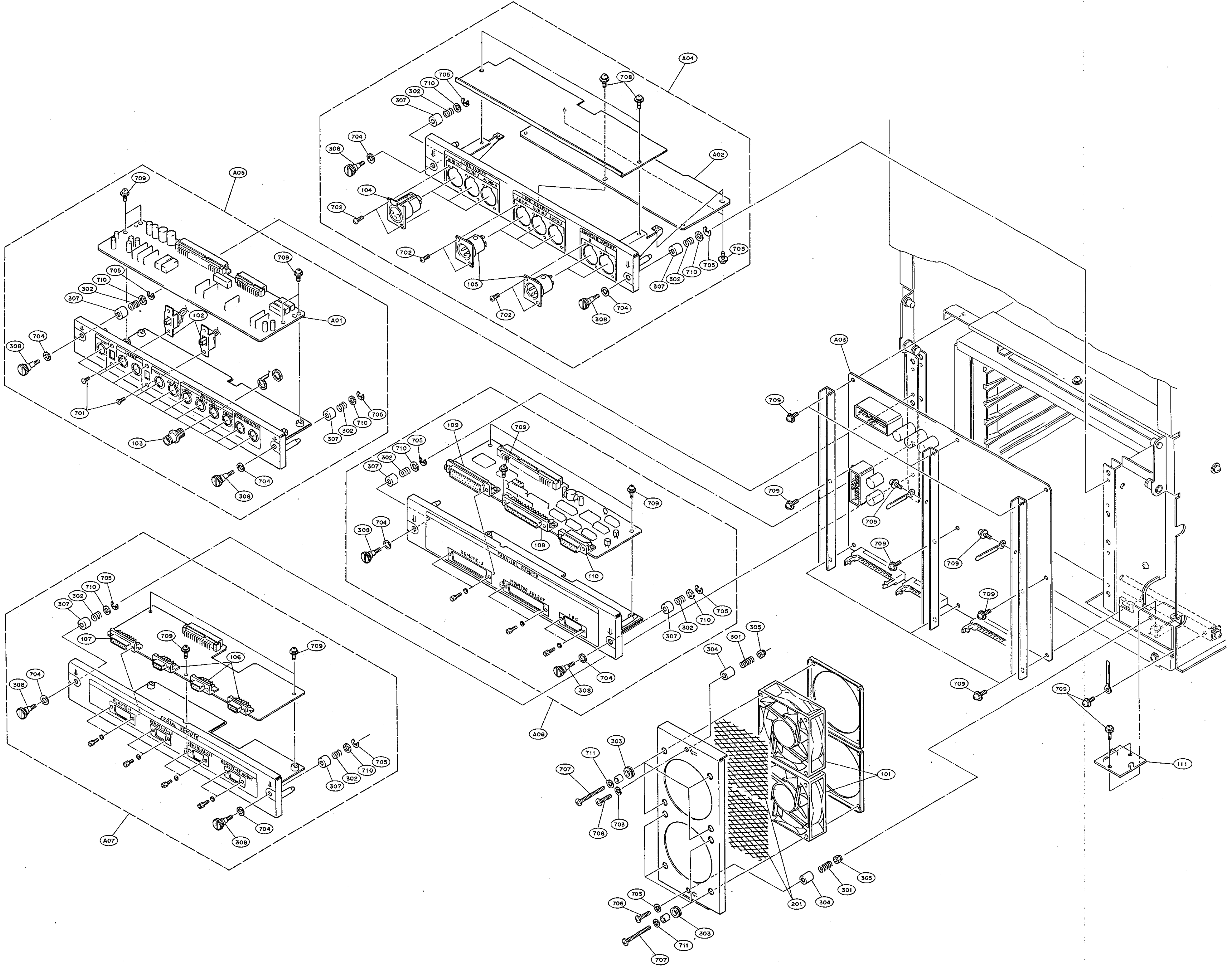
POWER SUPPLY ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
X01	X-3714-539-1	o	DISK ASSY, UR
X02	X-3714-544-1	o	LID (1) ASSY, REAR
101	⚠1-413-274-11	o	REGULATOR, SWITCHING(UR-20)
102	1-558-999-11	s	AC CORD, 3P (for USA/CANADA)
	1-556-371-21	s	AC CORD, 3P (for EK)
	1-559-001-11	s	AC CORD, (for JAPAN)
103	1-621-130-11	o	PC BOARD, AC-82
201	2-362-365-00	s	FOOT, RUBBER
202	2-430-789-01	s	SCREW M3X55
301	3-483-026-31	o	BRACKET, MOTOR THRUST
302	3-575-481-01	s	SPRING, TENSION
303	3-564-029-00	s	SPRING, COMPRESSION
304	⚠3-649-728-00	o	STOPPER, CORD
305	3-714-855-02	o	SPACER, REAR PANEL
306	3-673-784-00	o	CAP
307	3-680-316-00	s	NUT (M4), STOPPER
308	3-701-447-21	s	WASHER, 10
309	3-703-150-11	o	CLAMP
310	3-714-724-02	o	LID (2), REAR
311	3-714-854-01	o	EDGING (BLACK)
401	4-363-409-21	s	HANDLE
402	4-373-536-01	s	BUSHING
403	4-882-677-00	s	SPRING, COMPRESSION
701	7-623-208-22	s	SW2, TYPE2
702	7-623-954-41	s	WASHER 3, FIBER
703	7-623-955-41	s	WASHER 4.0, FIBER
704	7-624-106-04	s	STOP RING 3.0, TYPE -E
705	7-624-108-04	s	STOP RING 4.0, TYPE -E
706	7-624-113-04	s	STOP RING 9.0, TYPE -E
707	7-682-547-04	s	SCREW +B 3X6
708	7-682-566-09	s	SCREW +B 4X20
709	7-682-947-01	s	SCREW +PSW 3X6
710	7-682-961-01	s	SCREW +PSW 4X8
711	7-684-023-04	s	N3, TYPE 2
712	7-688-003-11	s	W3, MIDDLE

CONNECTOR PANEL ASSEMBLY

CONNECTOR PANEL ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6011-111-A	o	COMPLETE PCB, VS-30
A02	A-6013-081-A	o	COMPLETE PCB, MA-26 (for J/UC/PS)
	A-6013-087-A	o	COMPLETE PCB, MA-26 (for PS-A4)
A03	A-6025-101-A	o	COMPLETE PCB, MB-140
A04	A-6030-074-A	o	MA-26 ASSY (for UC/PS)
	A-6030-075-A	o	MA-26 ASSY (for J)
	A-6030-109-A	o	MA-26 ASSY (for PS-A4)
A05	A-6030-078-A	o	VS-30 ASSY
A06	A-6030-080-A	o	PA-56 ASSY
A07	A-6030-081-A	o	SE-49 ASSY
101	1-541-327-11	s	FAN, DC
102	1-552-078-00	s	SWITCH, SLIDE
103	1-561-781-21	s	CONNECTOR, BNC(RECEPTACLE)
104	1-563-029-21	s	CONNECTOR, (RECEPTACLE), 3P
105	1-563-030-21	s	CONNECTOR, (RECEPTACLE), 3P
106	1-563-770-21	s	SOCKET, D-SUB CONNECTOR 9P
107	1-563-771-21	s	SOCKET, D-SUB CONNECTOR 15P
108	1-563-773-21	s	SOCKET, D-SUB CONNECTOR 37P
109	1-563-781-21	s	SOCKET, D-SUB CONNECTOR 50P
110	1-566-319-21	s	PLUG, D-SUB CONNECTOR 15P
111	1-621-131-11	s	PC BOARD, CN-186
201	2-252-609-00	o	COVER, FAN
301	3-564-029-00	o	SPRING, COMPRESSION
302	3-576-921-00	s	SPRING, COMPRESSION
303	3-630-837-00	o	BUSHING, STAND BY LAMP
304	3-714-855-02	o	SPACER, REAR PANEL
305	3-680-316-00	s	NUT (M4), STOPPER
307	3-714-855-21	o	SPACER, REAR PANEL
308	3-845-334-11	s	SCREW, ORNAMENTAL
701	7-621-559-30	s	SCREW +K 2.6X5
702	7-621-770-67	s	SCREW +B 2.6X6
703	7-623-955-41	s	WASHER 4.0, FIBER
704	7-623-956-41	s	WASHER 5.0, FIBER
705	7-624-106-04	s	STOP RING 3.0, TYPE -E
706	7-682-566-09	s	SCREW +B 4X20
707	7-682-569-09	s	SCREW +B 4X35
708	7-682-947-01	s	SCREW +PSW 3X6
709	7-682-948-01	s	SCREW +PSW 3X8
710	7-688-004-01	s	W 4, SMALL
711	7-688-005-02	s	W 5, SMALL


A04
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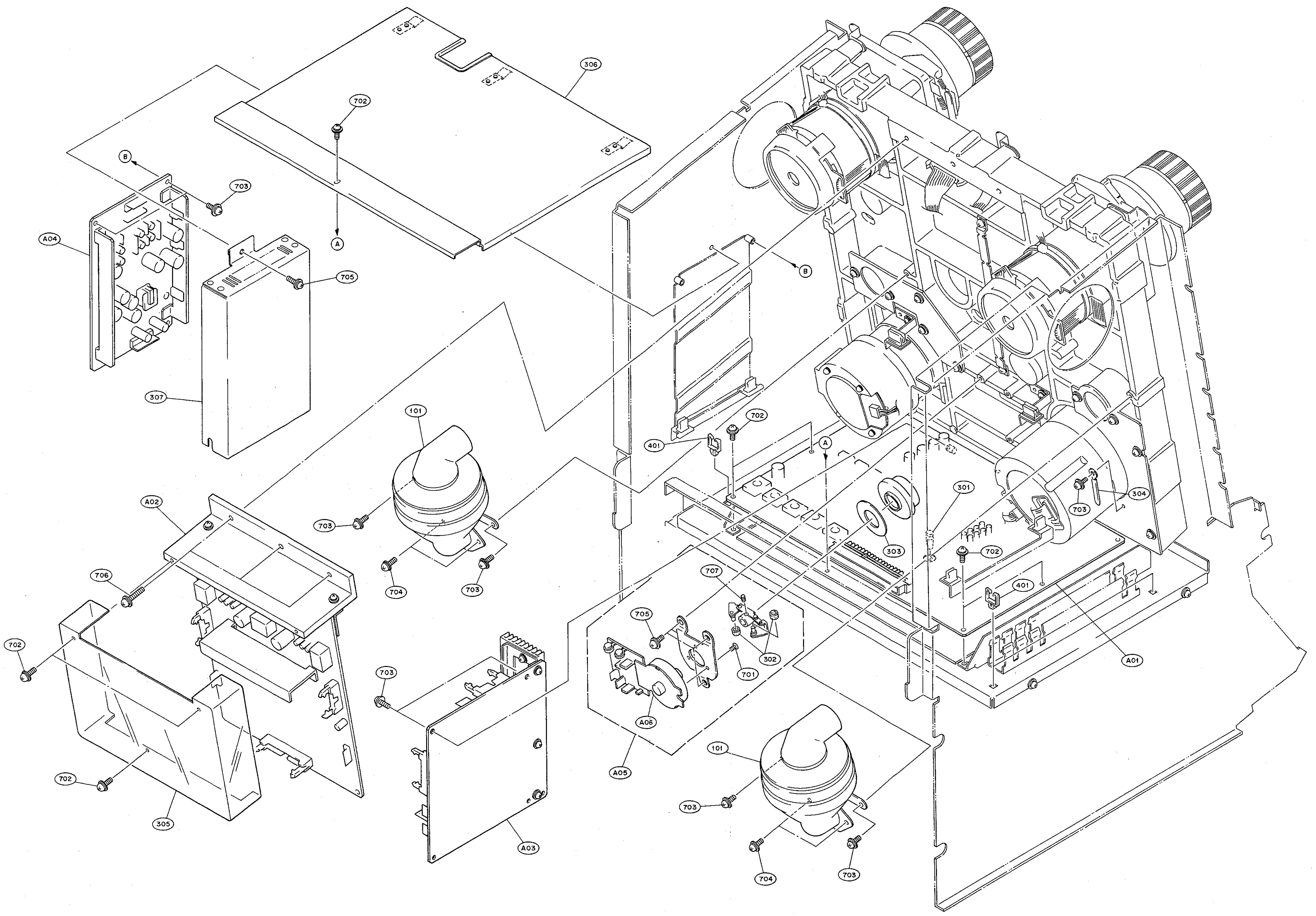
B
A04
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A01
A06
A05

TAPE TRANSPORT REAR ASSEMBLY, BVH-3000/3100

No.	Part No.	SP	Description
A01	A-6013-080-A	o	COMPLETE PCB, AP-15 (for J/UC)
	A-6013-085-A	o	COMPLETE PCB, AP-15 (for PS)
	A-6013-086-A	o	COMPLETE PCB, AP-15 (for PS-A4)
A02	A-6015-100-A	o	COMPLETE PCB, RM-43
A03	A-6015-101-A	o	COMPLETE PCB, CD-36
A04	A-6023-037-A	o	COMPLETE PCB, DD-7
A05	A-6037-022-A	o	MOTOR ASSY, IP DRIVING
A06	A-6037-025-A	o	MOTOR ASSY, ROLLER
101	1-541-424-11	s	BLOWER
301	3-426-449-03	s	FOOT, RUBBER
302	3-534-255-00	o	CUSHION, BRAKE
303	3-673-686-00	s	PLATE, FRICTION
304	3-703-150-11	o	CLAMP
305	3-714-558-02	o	PLATE, PROTECTION
306	3-714-642-01	o	COVER, AP SHIELD
307	3-714-722-01	o	CASE, DD
308	3-714-858-01	s	RING O
401	4-309-753-00	o	HOLDER, WIRE
701	7-621-559-20	s	SCREW +K 2.6X4
702	7-682-947-01	s	SCREW +PSW 3X6
703	7-682-948-01	s	SCREW +PSW 3X8
704	7-682-950-01	s	SCREW +PSW 3X12
705	7-682-962-01	s	SCREW +PSW 4X10
706	7-682-965-01	s	SCREW +PSW 4X16
707	7-683-238-01	s	SET SCREW, FLAT POINT 3X4

NONPOLAR CAPACITOR, BVH-3000PS/3100PS

Replacements for nonpolar capacitors not given in board parts lists are shown in the following list. If a capacitor with the desired working voltage is not found, choose one of a higher working voltage.

Part No.	SP	Description
1-107-019-00	s	CAP, MICA 1.0pF+/-0.5pF 500V
1-107-039-00	s	CAP, MICA 1.2pF+/-0.5pF 500V
1-107-040-00	s	CAP, MICA 1.5pF+/-0.5pF 500V
1-107-041-00	s	CAP, MICA 1.8pF+/-0.5pF 500V
1-107-042-00	s	CAP, MICA 2.2pF+/-0.5pF 500V
1-107-043-00	s	CAP, MICA 2.7pF+/-0.5pF 500V
1-107-044-00	s	CAP, MICA 3.3pF+/-0.5pF 500V
1-107-045-00	s	CAP, MICA 3.9pF+/-0.5pF 500V
1-107-046-00	s	CAP, MICA 4.7pF+/-0.5pF 500V
1-107-026-00	s	CAP, MICA 5.1pF+/-0.5pF 500V
1-107-047-00	s	CAP, MICA 5.6pF+/-0.5pF 500V
1-107-048-00	s	CAP, MICA 6.8pF+/-0.5pF 500V
1-107-049-00	s	CAP, MICA 8.2pF+/-0.5pF 500V
1-107-202-00	s	CAP, MICA 10pF 5% 500V
1-107-203-00	s	CAP, MICA 11pF 5% 500V
1-107-204-00	s	CAP, MICA 12pF 5% 500V
1-107-205-00	s	CAP, MICA 13pF 5% 500V
1-107-206-00	s	CAP, MICA 15pF 5% 500V
1-107-207-00	s	CAP, MICA 16pF 5% 500V
1-107-208-00	s	CAP, MICA 18pF 5% 500V
1-107-209-00	s	CAP, MICA 20pF 5% 500V
1-107-210-00	s	CAP, MICA 22pF 5% 500V
1-107-211-00	s	CAP, MICA 24pF 5% 500V
1-107-157-00	s	CAP, MICA 27pF 5% 500V
1-107-158-00	s	CAP, MICA 30pF 5% 500V
1-107-159-00	s	CAP, MICA 33pF 5% 500V
1-107-074-00	s	CAP, MICA 36pF 5% 50V
1-107-075-00	s	CAP, MICA 39pF 5% 50V
1-107-076-00	s	CAP, MICA 43pF 5% 50V
1-107-077-00	s	CAP, MICA 47pF 5% 50V
1-107-164-00	s	CAP, MICA 51pF 5% 500V
1-107-165-00	s	CAP, MICA 56pF 5% 500V
1-107-166-00	s	CAP, MICA 62pF 5% 500V
1-107-036-00	s	CAP, MICA 68pF 5% 500V
1-107-167-00	s	CAP, MICA 75pF 5% 500V
1-107-083-00	s	CAP, MICA 82pF 5% 50V
1-107-084-00	s	CAP, MICA 91pF 5% 50V
1-107-085-00	s	CAP, MICA 100pF 5% 50V
1-107-086-00	s	CAP, MICA 110pF 5% 50V
1-107-087-00	s	CAP, MICA 120pF 5% 50V
1-109-538-00	s	CAP, MICA 130pF 5% 100V
1-109-539-00	s	CAP, MICA 150pF 5% 100V
1-107-090-00	s	CAP, MICA 160pF 5% 50V
1-109-540-00	s	CAP, MICA 180pF 5% 100V
1-109-541-00	s	CAP, MICA 200pF 5% 100V
1-109-542-00	s	CAP, MICA 220pF 5% 100V
1-109-545-00	s	CAP, MICA 270pF 5% 100V
1-109-547-00	s	CAP, MICA 330pF 5% 100V
1-109-549-00	s	CAP, MICA 390pF 5% 100V
1-109-633-00	s	CAP, MICA 470pF 2% 500V
1-109-555-00	s	CAP, MICA 560pF 5% 100V
1-109-635-00	s	CAP, MICA 680pF 2% 500V

(NONPOLAR CAPACITOR, BVH-3000PS/3100PS)

Part No.	SP	Description
1-161-039-00	s	CAP, CERAMIC 0.001 10% 50V
1-161-041-00	s	CAP, CERAMIC 0.0015 10% 50V
1-161-043-00	s	CAP, CERAMIC 0.0022 10% 50V
1-161-045-00	s	CAP, CERAMIC 0.0033 10% 50V
1-161-047-00	s	CAP, CERAMIC 0.0047 10% 50V
1-161-049-00	s	CAP, CERAMIC 0.0068 10% 50V
1-161-051-00	s	CAP, CERAMIC 0.01 10% 50V
1-161-053-00	s	CAP, CERAMIC 0.015 10% 50V
1-161-055-00	s	CAP, CERAMIC 0.022 10% 50V
1-161-057-00	s	CAP, CERAMIC 0.033 10% 50V
1-161-021-11	s	CAP, CERAMIC 0.047 10% 25V
1-161-059-00	s	CAP, CERAMIC 0.047 10% 50V
1-161-061-00	s	CAP, CERAMIC 0.068 10% 50V
1-161-772-11	s	CAP, CERAMIC 0.1 10% 25V
1-161-063-00	s	CAP, CERAMIC 0.1 10% 50V

ELECTROLYTIC CAPACITOR, BVH-3000PS/3100PS

Replacement for electrolytic capacitors not given in board parts lists are shown in the following list. If a capacitor with the desired working voltage is not found, choose one of a higher working voltage.

Part No.	SP	Description
1-124-902-00	s	CAP, ELECT 0.47 20% 50V
1-124-791-11	s	CAP, ELECT 1.0 20% 100V
1-124-925-11	s	CAP, ELECT 2.2 20% 100V
1-123-382-00	s	CAP, ELECT 3.3 20% 100V
1-124-927-00	s	CAP, ELECT 4.7 20% 100V
1-123-875-91	s	CAP, ELECT 10 20% 50V
1-124-908-11	s	CAP, ELECT 22 20% 50V
1-124-963-11	s	CAP, ELECT 33 20% 16V
1-124-482-11	s	CAP, ELECT 33 20% 35V
1-124-917-11	s	CAP, ELECT 33 20% 63V
1-124-446-11	s	CAP, ELECT 47 20% 10V
1-124-477-11	s	CAP, ELECT 47 20% 25V
1-124-910-11	s	CAP, ELECT 47 20% 50V
1-124-443-00	s	CAP, ELECT 100 20% 10V
1-126-101-11	s	CAP, ELECT 100 20% 16V
1-124-478-11	s	CAP, ELECT 100 20% 25V
1-124-122-11	s	CAP, ELECT 100 20% 50V
1-124-444-00	s	CAP, ELECT 220 20% 10V
1-124-120-11	s	CAP, ELECT 220 20% 25V
1-124-484-11	s	CAP, ELECT 220 20% 35V
1-124-911-11	s	CAP, ELECT 220 20% 50V
1-124-442-00	s	CAP, ELECT 330 20% 6.3V
1-124-604-00	s	CAP, ELECT 330 20% 10V
1-124-119-00	s	CAP, ELECT 330 20% 16V
1-124-479-11	s	CAP, ELECT 330 20% 25V
1-124-485-11	s	CAP, ELECT 330 20% 35V
1-124-912-11	s	CAP, ELECT 330 20% 50V
1-124-472-11	s	CAP, ELECT 470 20% 10V
1-124-475-11	s	CAP, ELECT 470 20% 16V
1-124-480-11	s	CAP, ELECT 470 20% 25V
1-126-104-11	s	CAP, ELECT 470 20% 35V
1-124-913-11	s	CAP, ELECT 470 20% 50V

RESISTOR, BVH-3000PS/3100PS

Replacements for resistors not given in board parts lists are shown in the following list.

Part No.	SP	Description
1-249-381-11	s	RES, CARBON 1.0 5% 1/4W
1-249-382-11	s	RES, CARBON 1.2 5% 1/4W
1-249-383-11	s	RES, CARBON 1.5 5% 1/4W
1-249-384-11	s	RES, CARBON 1.8 5% 1/4W
1-249-385-11	s	RES, CARBON 2.2 5% 1/4W
1-249-386-11	s	RES, CARBON 2.7 5% 1/4W
1-249-387-11	s	RES, CARBON 3.3 5% 1/4W
1-249-388-11	s	RES, CARBON 3.9 5% 1/4W
1-249-389-11	s	RES, CARBON 4.7 5% 1/4W
1-249-390-11	s	RES, CARBON 5.6 5% 1/4W
1-249-391-11	s	RES, CARBON 6.8 5% 1/4W
1-249-392-11	s	RES, CARBON 8.2 5% 1/4W
1-249-393-11	s	RES, CARBON 10 5% 1/4W
1-249-394-11	s	RES, CARBON 12 5% 1/4W
1-249-395-11	s	RES, CARBON 15 5% 1/4W
1-249-396-11	s	RES, CARBON 18 5% 1/4W
1-249-397-11	s	RES, CARBON 22 5% 1/4W
1-249-398-11	s	RES, CARBON 27 5% 1/4W
1-249-399-11	s	RES, CARBON 33 5% 1/4W
1-249-400-11	s	RES, CARBON 39 5% 1/4W
1-249-401-11	s	RES, CARBON 47 5% 1/4W
1-249-402-11	s	RES, CARBON 56 5% 1/4W
1-249-403-11	s	RES, CARBON 68 5% 1/4W
1-215-394-00	s	RES, METAL 75 1% 1/6W
1-249-404-11	s	RES, CARBON 82 5% 1/4W
1-249-405-11	s	RES, CARBON 100 5% 1/4W
1-249-406-11	s	RES, CARBON 120 5% 1/4W
1-249-407-11	s	RES, CARBON 150 5% 1/4W
1-249-408-11	s	RES, CARBON 180 5% 1/4W
1-249-409-11	s	RES, CARBON 220 5% 1/4W
1-249-410-11	s	RES, CARBON 270 5% 1/4W
1-249-411-11	s	RES, CARBON 330 5% 1/4W
1-249-412-11	s	RES, CARBON 390 5% 1/4W
1-249-413-11	s	RES, CARBON 470 5% 1/4W
1-249-414-11	s	RES, CARBON 560 5% 1/4W
1-249-415-11	s	RES, CARBON 680 5% 1/4W
1-249-416-11	s	RES, CARBON 820 5% 1/4W
1-249-417-11	s	RES, CARBON 1.0k 5% 1/4W
1-249-418-11	s	RES, CARBON 1.2k 5% 1/4W
1-249-419-11	s	RES, CARBON 1.5k 5% 1/4W
1-249-420-11	s	RES, CARBON 1.8k 5% 1/4W
1-249-421-11	s	RES, CARBON 2.2k 5% 1/4W
1-249-422-11	s	RES, CARBON 2.7k 5% 1/4W
1-249-423-11	s	RES, CARBON 3.3k 5% 1/4W
1-249-424-11	s	RES, CARBON 3.9k 5% 1/4W
1-249-425-11	s	RES, CARBON 4.7k 5% 1/4W
1-249-426-11	s	RES, CARBON 5.6k 5% 1/4W
1-249-427-11	s	RES, CARBON 6.8k 5% 1/4W
1-249-428-11	s	RES, CARBON 8.2k 5% 1/4W
1-249-429-11	s	RES, CARBON 10k 5% 1/4W
1-249-430-11	s	RES, CARBON 12k 5% 1/4W
1-249-431-11	s	RES, CARBON 15k 5% 1/4W
1-249-432-11	s	RES, CARBON 18k 5% 1/4W
1-249-433-11	s	RES, CARBON 22k 5% 1/4W
1-249-434-11	s	RES, CARBON 27k 5% 1/4W

(RESISTOR, BVH-3000PS/3100PS)

Part No.	SP	Description
1-249-435-11	s	RES, CARBON 33k 5% 1/4W
1-249-436-11	s	RES, CARBON 39k 5% 1/4W
1-249-437-11	s	RES, CARBON 47k 5% 1/4W
1-249-438-11	s	RES, CARBON 56k 5% 1/4W
1-249-439-11	s	RES, CARBON 68k 5% 1/4W
1-249-440-11	s	RES, CARBON 82k 5% 1/4W
1-249-441-11	s	RES, CARBON 100k 5% 1/4W
1-215-471-00	s	RES, METAL 120k 1% 1/6W
1-215-473-00	s	RES, METAL 150k 1% 1/6W
1-215-475-00	s	RES, METAL 180k 1% 1/6W
1-215-477-00	s	RES, METAL 220k 1% 1/6W
1-215-479-00	s	RES, METAL 270k 1% 1/6W
1-215-481-00	s	RES, METAL 330k 1% 1/6W
1-215-483-00	s	RES, METAL 390k 1% 1/6W
1-215-485-00	s	RES, METAL 470k 1% 1/6W
1-215-487-00	s	RES, METAL 560k 1% 1/6W
1-215-489-00	s	RES, METAL 680k 1% 1/6W
1-215-491-00	s	RES, METAL 820k 1% 1/6W
1-215-493-00	s	RES, METAL 1.0M 1% 1/6W

AC-82 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-130-11	o	PC BOARD, AC-82
CB1	⚠ 1-532-547-31	s	BREAKER, CIRCUIT 10A
CN908	1-560-723-00	o	RECEP, 3P MALE

AP-15 BOARD, BVH-3000PS/3100PS

Board No.
1-621-107-11

*: The parts marked with an asterisk (*) are used for BVH-3000PS-A4/3100PS-A4 but not used for BVH-3000PS/3100PS.

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000PS/3100PS)	A-6013-085-A	o	COMPLETE PCB, AP-15
1pc (for BVH-3000PS-A4/3100PS-A4)	A-6013-086-A	o	COMPLETE PCB, AP-15
4pcs	4-812-134-00	s	RIVET NYLON, 3.5
3pcs	4-812-134-00	s	RIVET NYLON, 3.5
3pcs	4-812-134-00	s	RIVET NYLON, 3.5
2pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-628-254-40	s	SCREW +PS 2.6X12
6pcs	7-682-648-09	s	SCREW +PS 3X8
3pcs	7-682-947-01	s	SCREW +PSW 3X6
6pcs	7-684-023-04	s	N 3, TYPE 2
C1	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C2	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C15	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C28	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C30	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C33	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C36	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C37	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C40	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C41	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C101	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C114	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C115	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C116	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C117	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C120	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C121	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C122	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C123	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C124	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C126	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C127	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C128	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C131	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C134	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C145	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C148	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C201	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C214	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C215	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C216	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C217	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C220	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C221	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C222	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C223	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C224	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C226	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C227	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C228	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C231	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C234	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
C245	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C248	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C301	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C314	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C315	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C316	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C317	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C320	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C321	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C322	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C323	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C324	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C327	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C328	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C330	1-107-161-00	s	CAP, MICA 39PF 5% 500V
C331	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C334	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C348	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C401*	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C414	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C415	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C416	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C417	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C420*	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C421*	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C422*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C423*	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C424*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C426*	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C427*	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C428*	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C429*	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C431*	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C434*	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C445*	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C448*	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C501	1-109-590-00	s	CAP, MICA 0.0024uF 5% 500V
C505	1-109-642-00	s	CAP, MICA 0.0022uF 5% 500V
C506	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C507	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C509	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C510	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C513	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C514	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C528	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C530	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C533	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C537	1-124-278-00	s	CAP, ELECT, NONPOLAR 10uF 20% 35V
C540	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C542	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C543	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C544	1-130-497-00	s	CAP, MYLAR 0.15uF 5% 50V
C546	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C562	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C563	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C566	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C570	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C571*	1-109-537-00	s	CAP, MICA 120PF 5% 100V
C602	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C603	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C604*	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C605*	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C606*	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C607	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C609	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C612	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C613	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C614	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C615	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C617	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
CN317	1-506-748-11	s	RECEP, DIN 96P MALE
CN351	1-560-304-00	o	RECEP, IL 8P MALE
CN352	1-560-300-00	o	RECEP, IL 3P MALE
CN353*	1-560-300-00	o	RECEP, IL 3P MALE
CN354	1-560-300-00	o	RECEP, IL 3P MALE
CN355	1-560-303-00	o	RECEP, IL 6P MALE
CN356	1-560-300-00	o	RECEP, IL 3P MALE
CN357	1-560-301-00	o	RECEP, IL 4P MALE
CN358	1-560-300-00	o	RECEP, IL 3P MALE
CN359	1-560-302-00	o	RECEP, IL 5P MALE
CN360	1-560-303-00	o	RECEP, IL 6P MALE
CN362*	1-560-300-00	o	RECEP, IL 3P MALE
CN363*	1-560-300-00	o	RECEP, IL 3P MALE
CN364	1-560-300-00	o	RECEP, IL 3P MALE
CT101	1-141-155-00	s	CAP, TRIMMER 600PF
CT201	1-141-155-00	s	CAP, TRIMMER 600PF
CT301	1-141-155-00	s	CAP, TRIMMER 600PF
CT401*	1-141-155-00	s	CAP, TRIMMER 600PF
CT402	1-141-155-00	s	CAP, TRIMMER 600PF
CT501	1-141-260-00	s	CAP, TRIMMER 50PF
D1	8-719-918-88	s	DIODE 1SS198
D2	8-719-918-88	s	DIODE 1SS198
D3	8-719-918-88	s	DIODE 1SS198
D4	8-719-918-88	s	DIODE 1SS198
D5	8-719-918-88	s	DIODE 1SS198
D6	8-719-918-88	s	DIODE 1SS198
D7	8-719-918-88	s	DIODE 1SS198
D8	8-719-918-88	s	DIODE 1SS198
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-918-88	s	DIODE 1SS198
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-109-73	s	DIODE RD4.3ESB
D201	8-719-911-19	s	DIODE 1SS119
D202	8-719-911-19	s	DIODE 1SS119
D203	8-719-911-19	s	DIODE 1SS119
D204	8-719-109-73	s	DIODE RD4.3ESB
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-109-73	s	DIODE RD4.3ESB
D401	8-719-911-19	s	DIODE 1SS119
D402	8-719-911-19	s	DIODE 1SS119
D403	8-719-911-19	s	DIODE 1SS119
D404*	8-719-109-73	s	DIODE RD4.3ESB
D407*	8-719-911-19	s	DIODE 1SS119
D501	8-719-911-19	s	DIODE 1SS119
D502	8-719-911-19	s	DIODE 1SS119
D503	8-719-109-73	s	DIODE RD4.3ESB
D504	8-719-930-33	s	DIODE GL-3PR3
D505	8-719-930-33	s	DIODE GL-3PR3
D506	8-719-911-19	s	DIODE 1SS119
D507	8-719-911-19	s	DIODE 1SS119
D508	8-719-911-19	s	DIODE 1SS119
D509	8-719-911-19	s	DIODE 1SS119
D510	8-719-911-19	s	DIODE 1SS119
D513	8-719-911-19	s	DIODE 1SS119
D514	8-719-930-33	s	DIODE GL-3PR3
D601	8-719-911-19	s	DIODE 1SS119
D602	8-719-911-19	s	DIODE 1SS119
D603	8-719-911-19	s	DIODE 1SS119
D604	8-719-911-19	s	DIODE 1SS119
IC1	8-759-240-69	s	IC TC4069UBP
IC2	8-759-903-93	s	IC SN74LS393N
IC3	8-759-942-65	s	IC SN74265N
IC4	8-759-990-82	s	IC TL082CP
IC5	8-759-990-82	s	IC TL082CP
IC6	8-759-045-84	s	IC MC14584BCP
IC7	8-759-179-15	s	IC UPC7915H
IC8	8-759-171-15	s	IC UPC7815H
IC9	8-759-171-15	s	IC UPC7815H
IC10	8-759-179-15	s	IC UPC7915H
IC11	8-759-900-59	s	IC HI1-0201-5
IC12	8-759-974-06	s	IC SN7406N
IC13	8-759-900-32	s	IC SN74LS32N
IC14	8-759-900-32	s	IC SN74LS32N
IC15	8-759-171-15	s	IC UPC7815H
IC16	8-759-179-15	s	IC UPC7915H
IC17	8-759-170-15	s	IC UPC78M15H
IC18	8-759-700-25	s	IC NJM79M15A
IC19	8-759-171-15	s	IC UPC7815H
IC20	8-759-179-15	s	IC UPC7915H
IC101	8-759-990-82	s	IC TL082CP
IC102	8-759-745-60	s	IC NJM4560D
IC103	8-759-602-01	s	IC M5220P
IC201	8-759-990-82	s	IC TL082CP
IC202	8-759-745-60	s	IC NJM4560D
IC203	8-759-602-01	s	IC M5220P
IC301	8-759-990-82	s	IC TL082CP
IC302	8-759-745-60	s	IC NJM4560D
IC401	8-759-990-82	s	IC TL082CP
IC402*	8-759-745-60	s	IC NJM4560D
IC403*	8-759-602-01	s	IC M5220P
IC501	8-759-990-82	s	IC TL082CP

Ref.No. or Q'ty	Part No.	SP	Description
IC502	8-759-602-01	s	IC M5220P
IC503	8-759-745-60	s	IC NJM4560D
IC504	8-759-990-82	s	IC TL082CP
IC505	8-759-203-08	s	IC TC74HC221P
IC506	8-759-745-60	s	IC NJM4560D
IC507	8-759-906-07	s	IC TL607CP
IC508	8-759-745-60	s	IC NJM4560D
IC509	8-759-131-11	s	IC UPC311C
IC601	8-759-990-82	s	IC TL082CP
IC602	8-759-990-82	s	IC TL082CP
L2	1-421-329-00	s	COIL, CHOKE
L3	1-421-329-00	s	COIL, CHOKE
L4	1-421-329-00	s	COIL, CHOKE
L102	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L103	1-410-069-11	s	INDUCTOR 6.8mH 5%
L202	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L203	1-410-069-11	s	INDUCTOR 6.8mH 5%
L206	1-407-261-00	s	INDUCTOR, VAR 100UH
L302	1-407-286-00	s	INDUCTOR, VAR 2.2mH
L303	1-410-069-11	s	INDUCTOR 6.8mH 5%
L306	1-407-261-00	s	INDUCTOR, VAR 100UH
L307	1-408-397-00	s	INDUCTOR 1UH 5%
L402	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L403	1-410-069-11	s	INDUCTOR 6.8mH 5%
L404*	1-408-424-00	s	INDUCTOR 180UH
L502	1-407-284-00	s	INDUCTOR, VAR 1mH
L503	1-410-069-11	s	INDUCTOR 6.8mH 5%
L506	1-408-428-00	s	INDUCTOR 390UH 5%
LV1	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV101	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV104	1-407-301-00	s	INDUCTOR, VAR 9mH
LV105	1-407-301-00	s	INDUCTOR, VAR 9mH
LV201	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV204	1-407-301-00	s	INDUCTOR, VAR 9mH
LV205	1-407-301-00	s	INDUCTOR, VAR 9mH
LV301	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV304	1-407-301-00	s	INDUCTOR, VAR 9mH
LV305	1-407-301-00	s	INDUCTOR, VAR 9mH
LV401	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV404*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV405*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV501	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV504	1-407-301-00	s	INDUCTOR, VAR 9mH
LV505	1-407-301-00	s	INDUCTOR, VAR 9mH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q2	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q3	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q5	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q6	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q7	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q8	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q9	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q10	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q11	8-729-281-54	s	TRANSISTOR 2SC1815-BL

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
Q101	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q102	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q103	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q104	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q105	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q106	8-729-281-52	s	TRANSISTOR 2SC1815-Y
Q107	8-729-177-43	s	TRANSISTOR 2SD774
Q108	8-729-177-43	s	TRANSISTOR 2SD774
Q109	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q110	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q111	8-729-102-35	s	TRANSISTOR 2SK162
Q112	8-729-102-35	s	TRANSISTOR 2SK162
Q113	8-729-679-82	s	TRANSISTOR 2SA798
Q114	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q115	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q116	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q117	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q118	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q119	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q120	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q121	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q122	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q201	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q202	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q203	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q204	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q205	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q206	8-729-281-52	s	TRANSISTOR 2SC1815-Y
Q207	8-729-177-43	s	TRANSISTOR 2SD774
Q208	8-729-177-43	s	TRANSISTOR 2SD774
Q209	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q210	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q211	8-729-102-35	s	TRANSISTOR 2SK162
Q212	8-729-102-35	s	TRANSISTOR 2SK162
Q213	8-729-679-82	s	TRANSISTOR 2SA798
Q214	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q215	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q216	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q217	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q218	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q219	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q220	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q221	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q222	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q301	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q302	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q303	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q304	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q305	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q306	8-729-281-52	s	TRANSISTOR 2SC1815-Y
Q307	8-729-177-43	s	TRANSISTOR 2SD774
Q308	8-729-177-43	s	TRANSISTOR 2SD774
Q309	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q310	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q311	8-729-102-35	s	TRANSISTOR 2SK162

Ref.No. or Q'ty	Part No.	SP	Description
Q312	8-729-102-35	s	TRANSISTOR 2SK162
Q313	8-729-679-82	s	TRANSISTOR 2SA798
Q314	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q315	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q316	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q317	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q318	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q319	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q320	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q321	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q322	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q323	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q401	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q402	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q403	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q404	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q405*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q406*	8-729-281-54	s	TRANSISTOR 2SC1815-BL
Q407*	8-729-177-43	s	TRANSISTOR 2SD774
Q408*	8-729-177-43	s	TRANSISTOR 2SD774
Q409*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q410*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q411*	8-729-102-35	s	TRANSISTOR 2SK162
Q412*	8-729-102-35	s	TRANSISTOR 2SK162
Q413*	8-729-679-82	s	TRANSISTOR 2SA798
Q414*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q415*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q416*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q417*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q418*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q419*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q420*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q421*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q422*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q423*	8-729-900-36	s	TRANSISTOR DTC124ES
Q501	8-729-177-43	s	TRANSISTOR 2SD774
Q502	8-729-177-43	s	TRANSISTOR 2SD774
Q503	8-729-177-43	s	TRANSISTOR 2SD774
Q504	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q505	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q506	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q507	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q508	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q509	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q510	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q511	8-729-900-61	s	TRANSISTOR DTA114ES
Q512	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q513	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q514	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q515	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q516	8-729-201-04	s	TRANSISTOR 2SC2878
Q517	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q518	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q519	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q520	8-729-245-82	s	TRANSISTOR 2SC2458-Y

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
Q601	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q602*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q603	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q604*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q605	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q606	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q607	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q608	8-729-204-83	s	TRANSISTOR 2SA1048-GR
R33*	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R35	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R39	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R40	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R101	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R102	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R112	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R113	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R114	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R115	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R124	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R128	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R164	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R201	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R202	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R212	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R213	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R214	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R215	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R224	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R228	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R264	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R301	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R302	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R312	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R313	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R314	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R315	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R324	1-247-703-11	s	RES, CARBON 180 5% 1/4W
R328	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R345	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R401	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R402	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R412*	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R413*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R414*	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R415*	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R424*	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R428*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R458*	1-247-901-11	s	RES, CARBON 820K 5% 1/4W
R462	1-249-447-11	s	RES, CARBON 1 5% 1/4W
R464*	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R465*	1-247-701-00	s	RES, CARBON 120 5% 1/4W
R466*	1-247-701-00	s	RES, CARBON 120 5% 1/4W
R483*	1-247-741-11	s	RES, CARBON 150 5% 1/2W
R501	1-212-360-00	s	RES, CARBON 1 5% 1/2W
R505	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R507	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R523	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R524	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R533	1-215-412-00	s	RES, METAL 430 1% 1/6W
R534	1-247-838-00	s	RES, CARBON 2K 5% 1/4W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
R546	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R551	1-249-753-85	s	RES, CARBON 4.7M 5% 1/4W
R556	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R558	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R583	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R602*	1-215-413-00	s	RES, METAL 470 1% 1/6W
R603	1-215-413-00	s	RES, METAL 470 1% 1/6W
R604	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R606*	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R614	1-215-413-00	s	RES, METAL 470 1% 1/6W
R615	1-215-413-00	s	RES, METAL 470 1% 1/6W
R616	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R618	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
RV1	1-230-845-11	s	RES, ADJ, METAL 50K
RV101	1-230-839-11	s	RES, ADJ, METAL 500
RV201	1-230-839-11	s	RES, ADJ, METAL 500
RV202	1-230-834-11	s	RES, ADJ, METAL 10
RV301	1-230-839-11	s	RES, ADJ, METAL 500
RV302*	1-230-834-11	s	RES, ADJ, METAL 10
RV401	1-230-839-11	s	RES, ADJ, METAL 500
RV501	1-230-838-11	s	RES, ADJ, METAL 200
RV502	1-230-839-11	s	RES, ADJ, METAL 500
RV503	1-230-844-11	s	RES, ADJ, METAL 20K
RV504	1-230-844-11	s	RES, ADJ, METAL 20K
RY1*	1-515-645-11	s	RELAY
T101	1-433-196-00	s	TRANSFORMER, BIAS
T201	1-433-196-00	s	TRANSFORMER, BIAS
T301	1-433-196-00	s	TRANSFORMER, BIAS
T401*	1-433-196-00	s	TRANSFORMER, BIAS
T501	1-433-196-00	s	TRANSFORMER, BIAS
TH101	1-800-198-XX	s	THERMISTOR S-1K
TH102	1-800-200-00	s	THERMISTOR S-3K
TH201	1-800-198-XX	s	THERMISTOR S-1K
TH202	1-800-200-00	s	THERMISTOR S-3K
TH301	1-800-198-XX	s	THERMISTOR S-1K
TH302	1-800-200-00	s	THERMISTOR S-3K
TH401	1-800-198-XX	s	THERMISTOR S-1K
TH402*	1-800-200-00	s	THERMISTOR S-3K
TH501	1-800-198-XX	s	THERMISTOR S-1K
X1	1-567-793-11	s	RESONATOR, CERAMIC 800KHz

AP-15 BOARD, BVH-3000PS/3100PS   Board No. 1-621-107-11

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*: The parts marked with an asterrisk (*) are used for BVH-3000PS-A4/3100PS-A4 but not used for BVH-3000PS/3100PS.

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000PS/3100PS)	A-6013-085-A	o	COMPLETE PCB, AP-15
1pc (for BVH-3000PS-A4/3100PS-A4)	A-6013-086-A	o	COMPLETE PCB, AP-15
4pcs	4-812-134-00	s	RIVET NYLON, 3.5
3pcs	4-812-134-00	s	RIVET NYLON, 3.5
3pcs	4-812-134-00	s	RIVET NYLON, 3.5
2pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-628-254-40	s	SCREW +PS 2.6X12
6pcs	7-682-648-09	s	SCREW +PS 3X8
3pcs	7-682-947-01	s	SCREW +PSW 3X6
6pcs	7-684-023-04	s	N 3, TYPE 2
C1	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C2	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C15	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C28	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C30	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C33	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C36	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C37	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C40	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C41	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C101	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C114	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C115	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C116	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C117	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C120	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C121	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C122	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C123	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C124	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C126	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C127	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C128	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C131	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C134	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C145	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C148	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C201	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C214	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C215	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C216	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C217	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C220	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C221	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C222	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C223	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C224	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C226	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C227	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C228	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C231	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C234	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
C245	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C248	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C301	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C314	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C315	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C316	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C317	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C320	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C321	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C322	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C323	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C324	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C327	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C328	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C330	1-107-161-00	s	CAP, MICA 39PF 5% 500V
C331	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C334	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C348	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C401*	1-109-569-00	s	CAP, MICA 330PF 5% 500V
C414	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C415	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C416	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C417	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C420*	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C421*	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C422*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C423*	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C424*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C426*	1-109-634-00	s	CAP, MICA 560PF 2% 500V
C427*	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C428*	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C429*	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C431*	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C434*	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C445*	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C448*	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C501	1-109-590-00	s	CAP, MICA 0.0024uF 5% 500V
C505	1-109-642-00	s	CAP, MICA 0.0022uF 5% 500V
C506	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C507	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C509	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C510	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C513	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C514	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C528	1-109-672-11	s	CAP, MICA 91PF 1% 500V
C530	1-109-675-11	s	CAP, MICA 120PF 1% 500V
C533	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C537	1-124-278-00	s	CAP, ELECT, NONPOLAR 10uF 20% 35V
C540	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C542	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C543	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C544	1-130-497-00	s	CAP, MYLAR 0.15uF 5% 50V
C546	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C562	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C563	1-131-353-00	s	CAP, TANT 10uF 10% 35V

Ref.No. or Q'ty	Part No.	SP	Description
C566	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C570	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C571	1-109-531-11	s	CAP, MICA 68PF 5% 100V
C572	1-109-641-00	s	CAP, MICA 0.002uF 5% 500V
C573	1-109-591-11	s	CAP, MICA 0.0027uF 5% 500V
C602	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C603	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C604*	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C605*	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C606*	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C607	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C609	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C612	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C613	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C614	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C615	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C617	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
CN317	1-506-748-11	s	RECEP, DIN 96P MALE
CN351	1-560-304-00	o	RECEP, IL 8P MALE
CN352	1-560-300-00	o	RECEP, IL 3P MALE
CN353*	1-560-300-00	o	RECEP, IL 3P MALE
CN354	1-560-300-00	o	RECEP, IL 3P MALE
CN355	1-560-303-00	o	RECEP, IL 6P MALE
CN356	1-560-300-00	o	RECEP, IL 3P MALE
CN357	1-560-301-00	o	RECEP, IL 4P MALE
CN358	1-560-300-00	o	RECEP, IL 3P MALE
CN359	1-560-302-00	o	RECEP, IL 5P MALE
CN360	1-560-303-00	o	RECEP, IL 6P MALE
CN362*	1-560-300-00	o	RECEP, IL 3P MALE
CN363*	1-560-300-00	o	RECEP, IL 3P MALE
CN364	1-560-300-00	o	RECEP, IL 3P MALE
CT101	1-141-155-00	s	CAP, TRIMMER 600PF
CT201	1-141-155-00	s	CAP, TRIMMER 600PF
CT301	1-141-155-00	s	CAP, TRIMMER 600PF
CT401*	1-141-155-00	s	CAP, TRIMMER 600PF
CT402	1-141-155-00	s	CAP, TRIMMER 600PF
CT502	1-141-297-11	s	CAP, TRIMMER 90PF
D1	8-719-918-88	s	DIODE 1SS198
D2	8-719-918-88	s	DIODE 1SS198
D3	8-719-918-88	s	DIODE 1SS198
D4	8-719-918-88	s	DIODE 1SS198
D5	8-719-918-88	s	DIODE 1SS198
D6	8-719-918-88	s	DIODE 1SS198
D7	8-719-918-88	s	DIODE 1SS198
D8	8-719-918-88	s	DIODE 1SS198
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-918-88	s	DIODE 1SS198
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-109-73	s	DIODE RD4.3ESB
D201	8-719-911-19	s	DIODE 1SS119
D202	8-719-911-19	s	DIODE 1SS119
D203	8-719-911-19	s	DIODE 1SS119
D204	8-719-109-73	s	DIODE RD4.3ESB
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AP-15 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-107-12
& Higher

Ref.No. or Q'ty	Part No.	SP	Description
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-109-73	s	DIODE RD4.3ESB
D401	8-719-911-19	s	DIODE 1SS119
D402	8-719-911-19	s	DIODE 1SS119
D403	8-719-911-19	s	DIODE 1SS119
D404*	8-719-109-73	s	DIODE RD4.3ESB
D407*	8-719-911-19	s	DIODE 1SS119
D501	8-719-911-19	s	DIODE 1SS119
D502	8-719-911-19	s	DIODE 1SS119
D503	8-719-109-73	s	DIODE RD4.3ESB
D504	8-719-930-33	s	DIODE GL-3PR3
D505	8-719-930-33	s	DIODE GL-3PR3
D506	8-719-911-19	s	DIODE 1SS119
D507	8-719-911-19	s	DIODE 1SS119
D508	8-719-911-19	s	DIODE 1SS119
D509	8-719-911-19	s	DIODE 1SS119
D510	8-719-911-19	s	DIODE 1SS119
D513	8-719-911-19	s	DIODE 1SS119
D514	8-719-930-33	s	DIODE GL-3PR3
D601	8-719-911-19	s	DIODE 1SS119
D602	8-719-911-19	s	DIODE 1SS119
D603	8-719-911-19	s	DIODE 1SS119
D604	8-719-911-19	s	DIODE 1SS119
IC1	8-759-240-69	s	IC TC4069UBP
IC2	8-759-903-93	s	IC SN74LS393N
IC3	8-759-942-65	s	IC SN74265N
IC4	8-759-990-82	s	IC TL082CP
IC5	8-759-990-82	s	IC TL082CP
IC6	8-759-045-84	s	IC MC14584BCP
IC7	8-759-982-41	s	IC RC7915FA
IC8	8-759-982-15	s	IC RC7815FA
IC9	8-759-982-15	s	IC RC7815FA
IC10	8-759-982-41	s	IC RC7915FA
IC11	8-759-900-59	s	IC HI1-0201-5
IC12	8-759-974-06	s	IC SN7406N
IC13	8-759-900-32	s	IC SN74LS32N
IC14	8-759-900-32	s	IC SN74LS32N
IC15	8-759-982-15	s	IC RC7815FA
IC16	8-759-982-41	s	IC RC7915FA
IC17	8-759-982-36	s	IC RC78M15FA
IC18	8-759-982-58	s	IC RC79M15FA
IC19	8-759-982-15	s	IC RC7815FA
IC20	8-759-982-41	s	IC RC7915FA
IC101	8-759-990-82	s	IC TL082CP
IC102	8-759-745-60	s	IC NJM4560D
IC103	8-759-602-01	s	IC M5220P
IC 301	8-759-990-82	s	IC TL082CP
IC202	8-759-745-60	s	IC NJM4560D
IC203	8-759-602-01	s	IC M5220P
IC301	8-759-990-82	s	IC TL082CP
IC302	8-759-745-60	s	IC NJM4560D
IC401	8-759-990-82	s	IC TL082CP
IC402*	8-759-745-60	s	IC NJM4560D
IC403*	8-759-602-01	s	IC M5220P
IC501	8-759-990-82	s	IC TL082CP
IC502	8-759-602-01	s	IC M5220P
IC503	8-759-745-60	s	IC NJM4560D
IC504	8-759-990-82	s	IC TL082CP
IC505	8-759-203-08	s	IC TC74HC221P
IC506	8-759-745-60	s	IC NJM4560D

(AP-15 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-107-12
& Higher

Ref.No. or Q'ty	Part No.	SP	Description
IC507	8-759-906-07	s	IC TL607CP
IC508	8-759-745-60	s	IC NJM4560D
IC509	8-759-131-11	s	IC UPC311C
IC601	8-759-990-82	s	IC TL082CP
IC602	8-759-990-82	s	IC TL082CP
JP101	1-566-385-11	s	PIN 2P
JP102	1-566-385-11	s	PIN 2P
JP103	1-566-385-11	s	PIN 2P
JP201	1-566-385-11	s	PIN 2P
JP202	1-566-385-11	s	PIN 2P
JP203	1-566-385-11	s	PIN 2P
JP301	1-566-385-11	s	PIN 2P
JP302	1-566-385-11	s	PIN 2P
JP401*	1-566-385-11	s	PIN 2P
JP402*	1-566-385-11	s	PIN 2P
JP403*	1-566-385-11	s	PIN 2P
JP501	1-566-385-11	s	PIN 2P
JP502	1-566-385-11	s	PIN 2P
JP503	1-566-385-11	s	PIN 2P
JP504	1-566-385-11	s	PIN 2P
JS101	1-563-859-11	s	RECEPTACLE, 2P
JS201	1-563-859-11	s	RECEPTACLE, 2P
JS301	1-563-859-11	s	RECEPTACLE, 2P
JS401*	1-563-859-11	s	RECEPTACLE, 2P
JS503	1-563-859-11	s	RECEPTACLE, 2P
L2	1-421-329-00	s	COIL, CHOKE
L3	1-421-329-00	s	COIL, CHOKE
L4	1-421-329-00	s	COIL, CHOKE
L102	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L103	1-410-069-11	s	INDUCTOR 6.8mH 5%
L202	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L203	1-410-069-11	s	INDUCTOR 6.8mH 5%
L206	1-407-261-00	s	INDUCTOR, VAR 100UH
L302	1-407-286-00	s	INDUCTOR, VAR 2.2mH
L303	1-410-069-11	s	INDUCTOR 6.8mH 5%
L306	1-407-261-00	s	INDUCTOR, VAR 100UH
L307	1-408-397-00	s	INDUCTOR 1UH 5%
L402	1-407-285-00	s	INDUCTOR, VAR 1.5mH
L403	1-410-069-11	s	INDUCTOR 6.8mH 5%
L404*	1-408-424-00	s	INDUCTOR 180UH
L502	1-407-284-00	s	INDUCTOR, VAR 1mH
L503	1-410-069-11	s	INDUCTOR 6.8mH 5%
L506	1-408-428-00	s	INDUCTOR 390UH 5%
LV1	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV101	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV104	1-407-301-00	s	INDUCTOR, VAR 9mH
LV105	1-407-301-00	s	INDUCTOR, VAR 9mH
LV201	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV204	1-407-301-00	s	INDUCTOR, VAR 9mH
LV205	1-407-301-00	s	INDUCTOR, VAR 9mH
LV301	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV304	1-407-301-00	s	INDUCTOR, VAR 9mH
LV305	1-407-301-00	s	INDUCTOR, VAR 9mH
LV401	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV404*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV405*	1-407-301-00	s	INDUCTOR, VAR 9mH
LV501	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV504	1-407-301-00	s	INDUCTOR, VAR 9mH
LV505	1-407-301-00	s	INDUCTOR, VAR 9mH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref.No. or Q'ty	Part No.	SP	Description
Q2	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q3	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q5	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q6	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q7	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q8	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q9	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q10	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q11	8-729-281-54	s	TRANSISTOR 2SC1815-BL
Q101	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q102	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q103	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q104	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q105	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q106	8-729-281-52	s	TRANSISTOR 2SC1815-Y
Q107	8-729-177-43	s	TRANSISTOR 2SD774
Q108	8-729-177-43	s	TRANSISTOR 2SD774
Q109	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q110	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q111	8-729-102-35	s	TRANSISTOR 2SK162
Q112	8-729-102-35	s	TRANSISTOR 2SK162
Q113	8-729-679-82	s	TRANSISTOR 2SA798
Q114	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q115	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q116	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q117	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q118	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q119	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q120	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q121	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q122	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q201	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q202	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q203	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q204	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q205	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q206	8-729-281-52	s	TRANSISTOR 2SC1815-Y
Q207	8-729-177-43	s	TRANSISTOR 2SD774
Q208	8-729-177-43	s	TRANSISTOR 2SD774
Q209	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q210	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q211	8-729-102-35	s	TRANSISTOR 2SK162
Q212	8-729-102-35	s	TRANSISTOR 2SK162
Q213	8-729-679-82	s	TRANSISTOR 2SA798
Q214	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q215	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q216	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q217	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q218	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q219	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q220	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q221	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q222	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q301	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q302	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q303	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q304	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q305	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q306	8-729-281-52	s	TRANSISTOR 2SC1815-Y

Ref.No. or Q'ty	Part No.	SP	Description
Q307	8-729-177-43	s	TRANSISTOR 2SD774
Q308	8-729-177-43	s	TRANSISTOR 2SD774
Q309	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q310	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q311	8-729-102-35	s	TRANSISTOR 2SK162
Q312	8-729-102-35	s	TRANSISTOR 2SK162
Q313	8-729-679-82	s	TRANSISTOR 2SA798
Q314	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q315	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q316	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q317	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q318	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q319	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q320	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q321	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q322	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q323	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q401	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q402	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q403	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q404	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q405*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q406*	8-729-281-54	s	TRANSISTOR 2SC1815-BL
Q407*	8-729-177-43	s	TRANSISTOR 2SD774
Q408*	8-729-177-43	s	TRANSISTOR 2SD774
Q409*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q410*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q411*	8-729-102-35	s	TRANSISTOR 2SK162
Q412*	8-729-102-35	s	TRANSISTOR 2SK162
Q413*	8-729-679-82	s	TRANSISTOR 2SA798
Q414*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q415*	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q416*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q417*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q418*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q419*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q420*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q421*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q422*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q423*	8-729-900-36	s	TRANSISTOR DTC124ES
Q501	8-729-177-43	s	TRANSISTOR 2SD774
Q502	8-729-177-43	s	TRANSISTOR 2SD774
Q503	8-729-177-43	s	TRANSISTOR 2SD774
Q504	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q505	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q506	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q507	8-729-169-03	s	TRANSISTOR 2SC2690A-P
Q508	8-729-122-03	s	TRANSISTOR 2SA1220A-P
Q509	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q510	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q511	8-729-900-61	s	TRANSISTOR DTA114ES
Q512	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q513	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q514	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q515	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q516	8-729-201-04	s	TRANSISTOR 2SC2878
Q517	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q518	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q519	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q520	8-729-245-82	s	TRANSISTOR 2SC2458-Y

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AP-15 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-107-12
& Higher

Ref.No. or Q'ty	Part No.	SP	Description
Q601	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q602*	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q603	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q604*	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q605	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q606	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q607	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q608	8-729-204-83	s	TRANSISTOR 2SA1048-GR
R33*	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R35	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R39	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R40	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R101	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R102	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R112	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R113	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R114	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R115	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R124	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R128	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R164	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R165	1-247-690-11	s	RES, CARBON 15 5% 1/4W
R166	1-247-694-11	s	RES, CARBON 33 5% 1/4W
R201	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R202	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R212	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R213	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R214	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R215	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R224	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R228	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R264	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R265	1-247-690-11	s	RES, CARBON 15 5% 1/4W
R266	1-247-694-11	s	RES, CARBON 33 5% 1/4W
R301	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R302	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R312	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R313	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R314	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R315	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R324	1-247-703-11	s	RES, CARBON 180 5% 1/4W
R328	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R345	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R365	1-247-704-11	s	RES, CARBON 220 5% 1/4W
R401	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R402	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R412*	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R413*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R414*	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R415*	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R424*	1-247-688-11	s	RES, CARBON 10 5% 1/4W
R428*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R458*	1-247-901-11	s	RES, CARBON 820K 5% 1/4W
R462	1-249-447-11	s	RES, CARBON 1 5% 1/4W
R464*	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W

(AP-15 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-107-12
& Higher

Ref.No. or Q'ty	Part No.	SP	Description
R465	1-249-447-11	s	RES, CARBON 1 5% 1/4W
R465*	1-247-708-11	s	RES, CARBON 470 5% 1/4W
R466*	1-247-708-11	s	RES, CARBON 470 5% 1/4W
R467*	1-247-690-11	s	RES, CARBON 15 5% 1/4W
R468*	1-247-694-11	s	RES, CARBON 33 5% 1/4W
R483*	1-247-741-11	s	RES, CARBON 150 5% 1/2W
R484	1-217-666-11	s	RES, SHORT 0.01 1% 1/6W
R501	1-212-360-00	s	RES, CARBON 1 5% 1/2W
R505	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R507	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R523	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R524	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R533	1-215-412-00	s	RES, METAL 430 1% 1/6W
R534	1-249-415-11	s	RES, CARBON 680 5% 1/4W
R546	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R551	1-249-753-85	s	RES, CARBON 4.7M 5% 1/4W
R556	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R558	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R574*	1-215-491-00	s	RES, METAL 820K 1% 1/6W
R583	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R602*	1-215-413-00	s	RES, METAL 470 1% 1/6W
R603	1-215-413-00	s	RES, METAL 470 1% 1/6W
R604	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R606*	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R614	1-215-413-00	s	RES, METAL 470 1% 1/6W
R615	1-215-413-00	s	RES, METAL 470 1% 1/6W
R616	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R618	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
RV1	1-230-845-11	s	RES, ADJ, METAL 50K
RV101	1-230-839-11	s	RES, ADJ, METAL 500
RV201	1-230-839-11	s	RES, ADJ, METAL 500
RV202	1-230-834-11	s	RES, ADJ, METAL 10
RV301	1-230-839-11	s	RES, ADJ, METAL 500
RV302*	1-230-834-11	s	RES, ADJ, METAL 10
RV401	1-230-839-11	s	RES, ADJ, METAL 500
RV402*	1-237-512-21	s	RES, ADJ, METAL 100
RV501	1-230-838-11	s	RES, ADJ, METAL 200
RV502	1-230-839-11	s	RES, ADJ, METAL 500
RV503	1-230-844-11	s	RES, ADJ, METAL 20K
RV504	1-230-844-11	s	RES, ADJ, METAL 20K
RV505	1-230-841-11	s	RES, ADJ, METAL 2K
RY1*	1-515-645-11	s	RELAY
T101	1-433-196-00	s	TRANSFORMER, BIAS
T201	1-433-196-00	s	TRANSFORMER, BIAS
T301	1-433-196-00	s	TRANSFORMER, BIAS
T401*	1-433-196-00	s	TRANSFORMER, BIAS
T501	1-433-196-00	s	TRANSFORMER, BIAS
TH101	1-800-198-XX	s	THERMISTOR S-1K
TH102	1-800-200-00	s	THERMISTOR S-3K
TH201	1-800-198-XX	s	THERMISTOR S-1K
TH202	1-800-200-00	s	THERMISTOR S-3K
TH301	1-800-198-XX	s	THERMISTOR S-1K
TH302	1-800-200-00	s	THERMISTOR S-3K
TH401	1-800-198-XX	s	THERMISTOR S-1K
TH402*	1-800-200-00	s	THERMISTOR S-3K
TH501	1-800-198-XX	s	THERMISTOR S-1K
X1	1-567-793-11	s	RESONATOR, CERAMIC 800KHz

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

AU-88 BOARD, BVH-3000PS/3100PS
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*: The parts marked with an asterrisk (*) are used for BVH-3000PS-A4/3100PS-A4 but not used for BVH-3000PS/3100PS.

Ref. No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000PS/3100PS)	A-6013-088-A	o	COMPLETE PCB, AU-88
1pc (for BVH-3000PS-A4/3100PS-A4)	A-6013-089-A	o	COMPLETE PCB, AU-88
12pcs	7-621-759-65	s	+PSW, 2.6X8
8pcs	7-622-207-05	s	N 2.6, TYPE 2
8pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-648-01	s	SCREW +PSW 3X8
7pcs	7-682-648-09	s	SCREW +PS 3X8
7pcs	7-684-023-04	s	N 3, TYPE 2
C1	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C3	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C5	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C7	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C11	1-124-468-11	s	CAP, ELECT 100uF 20% 6.3V
C15	1-124-468-11	s	CAP, ELECT 100uF 20% 6.3V
C27	1-131-377-00	s	CAP, TANT 10uF 10% 10V
C28	1-131-377-00	s	CAP, TANT 10uF 10% 10V
C29	1-131-377-00	s	CAP, TANT 10uF 10% 10V
C30*	1-131-350-00	s	CAP, TANT 3.3uF 10% 35V
C31	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C113	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C114	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C115	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C117	1-162-763-11	s	CAP, CERAMIC 680PF 5% 50V
C118	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C119	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C120	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C121	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C122	1-164-123-11	s	CAP, CERAMIC 240PF 5% 50V
C123	1-130-482-00	s	CAP, MYLAR 0.0082uF 5% 50V
C124	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C126	1-162-882-11	s	CAP, CERAMIC 180PF 5% 50V
C127	1-162-885-11	s	CAP, CERAMIC 330PF 5% 50V
C128	1-162-879-11	s	CAP, CERAMIC 100PF 5% 50V
C129	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C130	1-131-381-00	s	CAP, TANTALUM 47uF 10% 10V
C133	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C134	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C135	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C136	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C137	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C139	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C140	1-130-470-00	s	CAP, MYLAR 820PF 5% 50V
C145	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C146	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C147	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C148	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C149	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C150	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C151	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C152	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C169	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C177	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C178	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C313	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C314	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C315	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C317	1-162-763-11	s	CAP, CERAMIC 680PF 5% 50V
C318	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C319	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C320	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C321	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C322	1-164-123-11	s	CAP, CERAMIC 240PF 5% 50V
C323	1-130-482-00	s	CAP, MYLAR 0.0082uF 5% 50V
C324	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C328	1-162-879-11	s	CAP, CERAMIC 100PF 5% 50V
C329	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C330	1-131-381-00	s	CAP, TANTALUM 47uF 10% 10V
C333	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C334	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C335	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C336	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C337	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C339	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C340	1-130-470-00	s	CAP, MYLAR 820PF 5% 50V
C345	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C346	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C347	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C348	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C349	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C350	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C351	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C352	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C369	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C377	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C378	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C512	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C513	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C514	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C517	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C518	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C519	1-131-344-00	s	CAP, TANT 0.33uF 10% 35V
C520	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C521	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C524	1-130-482-00	s	CAP, MYLAR 0.0082uF 5% 50V
C525	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C526	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C528	1-162-764-11	s	CAP, CERAMIC 680PF 5% 50V
C529	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C530	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C531	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C532	1-162-881-11	s	CAP, CERAMIC 150PF 5% 50V
C536	1-136-156-00	s	CAP, MYLAR 0.018uF 5% 50V
C537	1-136-156-00	s	CAP, MYLAR 0.018uF 5% 50V
C538	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C539	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C540	1-164-124-11	s	CAP, CERAMIC 300PF 5% 50V
C543	1-131-345-00	s	CAP, TANT 0.47uF 10% 35V
C544	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C545	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C546	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C548	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C570	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C571	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C572	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C573	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C574	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C575	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C576	1-124-468-11	s	CAP, ELECT 100uF 20% 6.3V
C577	1-162-879-11	s	CAP, CERAMIC 100PF 5% 50V
C579	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C589	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C593	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C596	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C711*	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C712*	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C715*	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C716*	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C717*	1-131-344-00	s	CAP, TANT 0.33uF 10% 35V
C718*	1-162-880-11	s	CAP, CERAMIC 120PF 5% 50V
C719*	1-162-880-11	s	CAP, CERAMIC 120PF 5% 50V
C720*	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C721*	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C722*	1-162-879-11	s	CAP, CERAMIC 100PF 1% 50V
C723	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C725*	1-164-126-11	s	CAP, CERAMIC 430PF 5% 50V
C726*	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C729*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C730*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C731*	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C732*	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C733*	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C734*	1-162-764-11	s	CAP, CERAMIC 820PF 5% 50V
C735*	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C736*	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C737*	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C738*	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C739*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C740*	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C741*	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C742*	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C745*	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C746*	1-130-472-00	s	CAP, MYLAR 0.0012uF 5% 50V
C747	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C750	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C751	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C752	1-136-166-00	s	CAP, MYLAR 0.12uF 5% 50V

Ref. No. or Q'ty	Part No.	SP	Description
C753	1-130-494-11	s	CAP, MYLAR 0.082uF 5% 50V
C754	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C756	1-162-756-11	s	CAP, CERAMIC 180PF 5% 50V
C757	1-130-490-11	s	CAP, MYLAR 0.039uF 5% 50V
C764	1-162-762-11	s	CAP, CERAMIC 560PF 5% 50V
C766	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C773*	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C784*	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C785*	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
CN301	1-506-748-11	s	RECEP, DIN 96P MALE
CN302	1-506-748-11	s	RECEP, DIN 96P MALE
CN801	1-563-761-11	o	RECEP, DIN 44P MALE
CN802	1-563-761-11	o	RECEP, DIN 44P MALE
CN803	1-506-642-11	o	RECEP, PS 26P MALE
CN804*	1-560-300-00	o	RECEP, IL 3P MALE
CN805*	1-560-300-00	o	RECEP, IL 3P MALE
D1	8-719-918-88	s	DIODE 1SS198
D2	8-719-918-88	s	DIODE 1SS198
D3	8-719-918-88	s	DIODE 1SS198
D4	8-719-918-88	s	DIODE 1SS198
D5	8-719-918-88	s	DIODE 1SS198
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-911-19	s	DIODE 1SS119
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-911-19	s	DIODE 1SS119
D108	8-719-911-19	s	DIODE 1SS119
D109	8-719-911-19	s	DIODE 1SS119
D110	8-719-911-19	s	DIODE 1SS119
D111	8-719-911-19	s	DIODE 1SS119
D112	8-719-911-19	s	DIODE 1SS119
D113	8-719-911-19	s	DIODE 1SS119
D301	8-719-911-19	s	DIODE 1SS119
D302	8-719-911-19	s	DIODE 1SS119
D303	8-719-911-19	s	DIODE 1SS119
D304	8-719-911-19	s	DIODE 1SS119
D305	8-719-911-19	s	DIODE 1SS119
D306	8-719-911-19	s	DIODE 1SS119
D307	8-719-911-19	s	DIODE 1SS119
D308	8-719-911-19	s	DIODE 1SS119
D309	8-719-911-19	s	DIODE 1SS119
D310	8-719-911-19	s	DIODE 1SS119
D311	8-719-911-19	s	DIODE 1SS119
D312	8-719-911-19	s	DIODE 1SS119
D313	8-719-911-19	s	DIODE 1SS119
D501	8-719-911-19	s	DIODE 1SS119
D502	8-719-911-19	s	DIODE 1SS119
D503	8-719-911-19	s	DIODE 1SS119
D504	8-719-911-19	s	DIODE 1SS119
D505	8-719-911-19	s	DIODE 1SS119
D506	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
D507	8-719-911-19	s	DIODE 1SS119
D508	8-719-911-19	s	DIODE 1SS119
D509	8-719-911-19	s	DIODE 1SS119
D510	8-719-911-19	s	DIODE 1SS119
D511	8-719-911-19	s	DIODE 1SS119
D512	8-719-911-19	s	DIODE 1SS119
D513	8-719-911-19	s	DIODE 1SS119
D514	8-719-911-19	s	DIODE 1SS119
D701*	8-719-911-19	s	DIODE 1SS119
D702*	8-719-911-19	s	DIODE 1SS119
D703*	8-719-911-19	s	DIODE 1SS119
D704*	8-719-911-19	s	DIODE 1SS119
D705*	8-719-911-19	s	DIODE 1SS119
D706*	8-719-911-19	s	DIODE 1SS119
D707*	8-719-911-19	s	DIODE 1SS119
D708*	8-719-911-19	s	DIODE 1SS119
D709*	8-719-911-19	s	DIODE 1SS119
D710	8-719-109-83	s	DIODE RD5.1ESB
D711	8-719-911-19	s	DIODE 1SS119
D712	8-719-911-19	s	DIODE 1SS119
D713	8-719-911-19	s	DIODE 1SS119
IC1	8-759-708-15	s	IC NJM78L15A
IC2	8-759-700-70	s	IC NJM79L15A
IC3	8-759-982-15	s	IC RC7815FA
IC4	8-759-938-68	s	IC CXD1095Q
IC5	8-759-938-68	s	IC CXD1095Q
IC6	8-759-916-20	s	IC SN74HC14N
IC7	8-759-901-32	s	IC SN74LS132N
IC8	8-759-900-32	s	IC SN74LS32N
IC9	8-759-900-00	s	IC SN74LS00N
IC10	8-759-202-74	s	IC TC74HC04P
IC101	8-759-982-15	s	IC RC7815FA
IC102	8-759-982-41	s	IC RC7915FA
IC103	8-759-900-72	s	IC NE5532P
IC104	8-759-745-60	s	IC NJM4560D
IC105	8-759-921-91	s	IC TL191CN
IC106	8-759-745-59	s	IC NJM4559D
IC107	8-759-745-59	s	IC NJM4559D
IC108	8-759-921-91	s	IC TL191CN
IC109	8-759-745-60	s	IC NJM4560D
IC110	8-759-921-91	s	IC TL191CN
IC111	8-759-745-59	s	IC NJM4559D
IC112	8-759-921-91	s	IC TL191CN
IC113	8-759-745-59	s	IC NJM4559D
IC114	8-759-921-91	s	IC TL191CN
IC115	8-759-745-59	s	IC NJM4559D
IC116	8-759-745-60	s	IC NJM4560D
IC117	8-759-990-82	s	IC TL082CP
IC118	8-759-745-63	s	IC NJM4560D-X
IC301	8-759-982-15	s	IC RC7815FA
IC302	8-759-982-41	s	IC RC7915FA
IC303	8-759-900-72	s	IC NE5532P
IC304	8-759-745-60	s	IC NJM4560D
IC305	8-759-921-91	s	IC TL191CN
IC306	8-759-745-59	s	IC NJM4559D

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
IC307	8-759-745-59	s	IC NJM4559D
IC308	8-759-921-91	s	IC TL191CN
IC309	8-759-745-60	s	IC NJM4560D
IC310	8-759-921-91	s	IC TL191CN
IC311	8-759-745-59	s	IC NJM4559D
IC312	8-759-921-91	s	IC TL191CN
IC313	8-759-745-59	s	IC NJM4559D
IC314	8-759-921-91	s	IC TL191CN
IC315	8-759-745-59	s	IC NJM4559D
IC316	8-759-745-60	s	IC NJM4560D
IC317	8-759-990-82	s	IC TL082CP
IC318	8-759-745-63	s	IC NJM4560D-X
IC501	8-759-982-15	s	IC RC7815FA
IC502	8-759-982-41	s	IC RC7915FA
IC503	8-759-900-72	s	IC NE5532P
IC504	8-759-745-60	s	IC NJM4560D
IC505	8-759-921-91	s	IC TL191CN
IC506	8-759-921-91	s	IC TL191CN
IC507	8-759-745-59	s	IC NJM4559D
IC508	8-759-745-59	s	IC NJM4559D
IC509	8-759-921-91	s	IC TL191CN
IC510	8-759-745-60	s	IC NJM4560D
IC511	8-759-745-59	s	IC NJM4559D
IC512	8-759-921-91	s	IC TL191CN
IC513	8-759-745-60	s	IC NJM4560D
IC515	8-759-921-91	s	IC TL191CN
IC516	8-759-745-63	s	IC NJM4560D-X
IC517	8-759-745-60	s	IC NJM4560D
IC518	8-759-990-82	s	IC TL082CP
IC519	8-759-745-59	s	IC NJM4559D
IC520	8-759-208-06	s	IC TC4051BPHB
IC521	8-759-908-20	s	IC TL820CN
IC522	8-759-900-00	s	IC SN74LS00N
IC523	8-759-900-04	s	IC SN74LS04N
IC524	8-759-901-26	s	IC SN74LS126AN
IC525	8-759-901-25	s	IC SN74LS125AN
IC526	8-759-901-26	s	IC SN74LS126AN
IC527	8-759-901-25	s	IC SN74LS125AN
IC528	8-759-990-82	s	IC TL082CP
IC529	8-759-921-91	s	IC TL191CN
IC530	8-759-921-91	s	IC TL191CN
IC701*	8-759-982-15	s	IC RC7815FA
IC702*	8-759-982-41	s	IC RC7915FA
IC703*	8-759-900-72	s	IC NE5532P
IC704*	8-759-745-60	s	IC NJM4560D
IC705*	8-759-921-91	s	IC TL191CN
IC706*	8-759-745-59	s	IC NJM4559D
IC707*	8-759-745-59	s	IC NJM4559D
IC708*	8-759-921-91	s	IC TL191CN
IC709*	8-759-745-60	s	IC NJM4560D
IC710*	8-759-745-59	s	IC NJM4559D
IC711*	8-759-921-91	s	IC TL191CN
IC712*	8-759-921-91	s	IC TL191CN
IC713*	8-759-045-38	s	IC MC14538BCP
IC714*	8-759-900-08	s	IC SN74LS08N

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
IC715	8-759-745-60	s	IC NJM4560D
IC716*	8-759-745-59	s	IC NJM4559D
IC717	8-759-921-91	s	IC TL191CN
IC718	8-759-921-91	s	IC TL191CN
IC719	8-759-745-59	s	IC NJM4559D
IC720*	8-759-745-63	s	IC NJM4560D-X
IC721	8-759-208-06	s	IC TC4051BPHB
IC722	8-759-208-06	s	IC TC4051BPHB
JP101	1-566-385-11	s	PIN, 2P
JP102	1-566-385-11	s	PIN, 2P
JP104	1-566-385-11	s	PIN, 2P
JP105	1-566-385-11	s	PIN, 2P
JP301	1-566-385-11	s	PIN, 2P
JP302	1-566-385-11	s	PIN, 2P
JP304	1-566-385-11	s	PIN, 2P
JP305	1-566-385-11	s	PIN, 2P
JP501	1-566-385-11	s	PIN, 2P
JP502	1-566-385-11	s	PIN, 2P
JP503	1-566-385-11	s	PIN, 2P
JP505	1-566-385-11	s	PIN, 2P
JP506	1-566-385-11	s	PIN, 2P
JP701*	1-566-385-11	s	PIN, 2P
JP702*	1-566-385-11	s	PIN, 2P
JP704*	1-566-385-11	s	PIN, 2P
JP705*	1-566-385-11	s	PIN, 2P
JP911	1-566-385-11	s	PIN, 2P
JP912	1-566-385-11	s	PIN, 2P
JP913	1-566-385-11	s	PIN, 2P
JP914	1-566-385-11	s	PIN, 2P
JP921	1-566-385-11	s	PIN, 2P
JP922	1-566-385-11	s	PIN, 2P
JP923	1-566-385-11	s	PIN, 2P
JP924	1-566-385-11	s	PIN, 2P
JS102	1-563-859-11	s	PLUG, SHORT
JS104	1-563-859-11	s	PLUG, SHORT
JS302	1-563-859-11	s	PLUG, SHORT
JS304	1-563-859-11	s	PLUG, SHORT
JS503	1-563-859-11	s	PLUG, SHORT
JS505	1-563-859-11	s	PLUG, SHORT
JS702*	1-563-859-11	s	PLUG, SHORT
JS704*	1-563-859-11	s	PLUG, SHORT
JS911	1-563-859-11	s	PLUG, SHORT
JS913	1-563-859-11	s	PLUG, SHORT
JS921	1-563-859-11	s	PLUG, SHORT
JS923	1-563-859-11	s	PLUG, SHORT
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L101	1-410-121-11	s	INDUCTOR 1.5mH 5%
L301	1-410-121-11	s	INDUCTOR 1.5mH 5%
LV101	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV102	1-407-293-00	s	INDUCTOR, VAR 1.5mH
LV301	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV302	1-407-293-00	s	INDUCTOR, VAR 1.5mH

Ref. No. or Q'ty	Part No.	SP	Description
LV501	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV502	1-407-293-00	s	INDUCTOR, VAR 1.5mH
LV701*	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV702*	1-407-293-00	s	INDUCTOR, VAR 1.5mH
LV703	1-407-297-00	s	INDUCTOR, VAR 3.5mH
LV704*	1-407-297-00	s	INDUCTOR, VAR 3.5mH
Q101	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q102	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q103	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q104	8-729-316-23	s	TRANSISTOR 2SC1162
Q105	8-729-307-58	s	TRANSISTOR 2SC1775A
Q106	8-729-307-58	s	TRANSISTOR 2SC1775A
Q107	8-729-307-58	s	TRANSISTOR 2SC1775A
Q108	8-729-371-53	s	TRANSISTOR 2SA715
Q109	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q110	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q111	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q112	8-729-316-23	s	TRANSISTOR 2SC1162
Q113	8-729-307-58	s	TRANSISTOR 2SC1775A
Q114	8-729-307-58	s	TRANSISTOR 2SC1775A
Q115	8-729-307-58	s	TRANSISTOR 2SC1775A
Q116	8-729-371-53	s	TRANSISTOR 2SA715
Q117	8-729-900-36	s	TRANSISTOR DTC124ES
Q301	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q302	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q303	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q304	8-729-316-23	s	TRANSISTOR 2SC1162
Q305	8-729-307-58	s	TRANSISTOR 2SC1775A
Q306	8-729-307-58	s	TRANSISTOR 2SC1775A
Q307	8-729-307-58	s	TRANSISTOR 2SC1775A
Q308	8-729-371-53	s	TRANSISTOR 2SA715
Q309	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q310	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q311	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q312	8-729-316-23	s	TRANSISTOR 2SC1162
Q313	8-729-307-58	s	TRANSISTOR 2SC1775A
Q314	8-729-307-58	s	TRANSISTOR 2SC1775A
Q315	8-729-307-58	s	TRANSISTOR 2SC1775A
Q316	8-729-371-53	s	TRANSISTOR 2SA715
Q317	8-729-900-36	s	TRANSISTOR DTC124ES
Q501	8-729-201-04	s	TRANSISTOR 2SC2878
Q503	8-729-201-04	s	TRANSISTOR 2SC2878
Q504	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q505	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q506	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q507	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q508	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q509	8-729-316-23	s	TRANSISTOR 2SC1162
Q510	8-729-307-58	s	TRANSISTOR 2SC1775A
Q511	8-729-307-58	s	TRANSISTOR 2SC1775A
Q512	8-729-307-58	s	TRANSISTOR 2SC1775A
Q513	8-729-371-53	s	TRANSISTOR 2SA715
Q514	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q515	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q516	8-729-307-28	s	TRANSISTOR 2SA872A-E

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
Q517	8-729-316-23	s	TRANSISTOR 2SC1162
Q518	8-729-307-58	s	TRANSISTOR 2SC1775A
Q519	8-729-307-58	s	TRANSISTOR 2SC1775A
Q520	8-729-307-58	s	TRANSISTOR 2SC1775A
Q521	8-729-371-53	s	TRANSISTOR 2SA715
Q522	8-729-900-36	s	TRANSISTOR DTC124ES
Q701*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q702*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q703*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q704*	8-729-316-23	s	TRANSISTOR 2SC1162
Q705*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q706*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q707*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q708*	8-729-371-53	s	TRANSISTOR 2SA715
Q709*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q710*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q711*	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q712*	8-729-316-23	s	TRANSISTOR 2SC1162
Q713*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q714*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q715*	8-729-307-58	s	TRANSISTOR 2SC1775A
Q716*	8-729-371-53	s	TRANSISTOR 2SA715
Q717*	8-729-900-36	s	TRANSISTOR DTC124ES
Q718	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q719	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q720	8-729-245-82	s	TRANSISTOR 2SC2458-Y
R101	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R102	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R103	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R104	1-215-397-00	s	RES, METAL 100 1% 1/6W
R105	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R106	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R108	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R109	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R111	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R112	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R113	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R114	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R115	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R137	1-215-460-00	s	RES, METAL 43K 1% 1/6W
R150	1-215-418-00	s	RES, METAL 750 1% 1/6W
R153	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R155	1-215-480-00	s	RES, METAL 300K 1% 1/6W
R157	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R177	1-215-480-00	s	RES, METAL 300K 1% 1/6W
R179	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R194	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R198	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R199	1-215-412-00	s	RES, METAL 430 1% 1/6W
R204	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R206	1-215-882-00	s	RES, METAL 22 5% 2W
R208	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R215	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R217	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R219	1-215-882-00	s	RES, METAL 22 5% 2W

Ref. No. or Q'ty	Part No.	SP	Description
R220	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R223	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R224	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R231	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R232	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R233	1-215-397-00	s	RES, METAL 100 1% 1/6W
R234	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R235	1-215-415-00	s	RES, METAL 560 1% 1/6W
R301	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R302	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R303	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R304	1-215-397-00	s	RES, METAL 100 1% 1/6W
R305	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R306	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R308	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R309	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R311	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R312	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R313	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R314	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R315	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R337	1-215-460-00	s	RES, METAL 43K 1% 1/6W
R350	1-215-418-00	s	RES, METAL 750 1% 1/6W
R353	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R355	1-215-480-00	s	RES, METAL 300K 1% 1/6W
R357	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R377	1-215-480-00	s	RES, METAL 300K 1% 1/6W
R379	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R394	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R398	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R399	1-215-412-00	s	RES, METAL 430 1% 1/6W
R404	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R406	1-215-882-00	s	RES, METAL 22 5% 2W
R408	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R415	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R417	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R419	1-215-882-00	s	RES, METAL 22 5% 2W
R420	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R423	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R431	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R432	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R433	1-215-397-00	s	RES, METAL 100 1% 1/6W
R434	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R435	1-215-415-00	s	RES, METAL 560 1% 1/6W
R502	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R503	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R504	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R505	1-215-397-00	s	RES, METAL 100 1% 1/6W
R506	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R507	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R509	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R510	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R511	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R513	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R514	1-215-445-00	s	RES, METAL 10K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
R515	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R516	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R530	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R534	1-215-460-00	s	RES, METAL 43K 1% 1/6W
R538	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R545	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R551	1-215-882-00	s	RES, METAL 22 5% 2W
R553	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R555	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R556	1-215-488-00	s	RES, METAL 620K 1% 1/6W
R573	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R596	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R599	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R601	1-215-412-00	s	RES, METAL 430 1% 1/6W
R614	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R615	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R616	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R621	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R628	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R629	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R630	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R637	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R646	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R648	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R608	1-215-408-00	s	RES, METAL 300 1% 1/6W
R614	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R615	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R616	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R621	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R628	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R629	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R630	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R637	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R646	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R648	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R652	1-215-882-00	s	RES, METAL 22 5% 2W
R656	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R659	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R661	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R662	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R663	1-215-397-00	s	RES, METAL 100 1% 1/6W
R664	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R665	1-215-415-00	s	RES, METAL 560 1% 1/6W
R701*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R702*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R703*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R704*	1-215-397-00	s	RES, METAL 100 1% 1/6W
R705*	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R706*	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R708*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R709*	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R711*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R712*	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R713*	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R714*	1-215-445-00	s	RES, METAL 10K 1% 1/6W

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
R716*	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R724*	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R738*	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R745*	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R749*	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R750*	1-215-480-00	s	RES, METAL 300K 1% 1/6W
R769*	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R770*	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R801*	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R802*	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R804*	1-215-882-00	s	RES, METAL 22 5% 2W
R813*	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R814*	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R817*	1-215-882-00	s	RES, METAL 22 5% 2W
R818*	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R819*	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R833*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R834*	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R835*	1-215-397-00	s	RES, METAL 100 1% 1/6W
R836*	1-215-421-00	s	RES, METAL 1K 1% 1/6W
RB1	1-231-541-00	s	RESISTOR BLOCK 22Kx4
RB2	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB3	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB4	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RV101	1-230-844-11	s	RES, ADJ, METAL 20K
RV102	1-230-844-11	s	RES, ADJ, METAL 20K
RV103	1-230-843-11	s	RES, ADJ, METAL 10K
RV104	1-230-841-11	s	RES, ADJ, METAL 2K
RV105	1-230-843-11	s	RES, ADJ, METAL 10K
RV106	1-230-843-11	s	RES, ADJ, METAL 10K
RV107	1-230-844-11	s	RES, ADJ, METAL 20K
RV108	1-230-843-11	s	RES, ADJ, METAL 10K
RV109	1-230-844-11	s	RES, ADJ, METAL 20K
RV110	1-230-844-11	s	RES, ADJ, METAL 20K
RV111	1-230-843-11	s	RES, ADJ, METAL 10K
RV112	1-230-844-11	s	RES, ADJ, METAL 20K
RV301	1-230-844-11	s	RES, ADJ, METAL 20K
RV302	1-230-844-11	s	RES, ADJ, METAL 20K
RV303	1-230-843-11	s	RES, ADJ, METAL 10K
RV304	1-230-841-11	s	RES, ADJ, METAL 2K
RV305	1-230-843-11	s	RES, ADJ, METAL 10K
RV306	1-230-843-11	s	RES, ADJ, METAL 10K
RV307	1-230-844-11	s	RES, ADJ, METAL 20K
RV308	1-230-843-11	s	RES, ADJ, METAL 10K
RV309	1-230-844-11	s	RES, ADJ, METAL 20K
RV310	1-230-844-11	s	RES, ADJ, METAL 20K
RV311	1-230-843-11	s	RES, ADJ, METAL 10K
RV312	1-230-844-11	s	RES, ADJ, METAL 20K
RV313	1-230-842-11	s	RES, ADJ, METAL 5K
RV502	1-230-844-11	s	RES, ADJ, METAL 20K
RV503	1-230-844-11	s	RES, ADJ, METAL 20K
RV504	1-230-843-11	s	RES, ADJ, METAL 10K
RV505	1-230-840-11	s	RES, ADJ, METAL 1K
RV506	1-230-844-11	s	RES, ADJ, METAL 20K
RV507	1-230-846-11	s	RES, ADJ, METAL 100K

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AU-88 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
RV508	1-230-844-11	s	RES, ADJ, METAL 20K
RV509	1-230-844-11	s	RES, ADJ, METAL 20K
RV515	1-230-843-11	s	RES, ADJ, METAL 10K
RV516	1-230-903-11	s	RES, ADJ, METAL 200K
RV517	1-230-843-11	s	RES, ADJ, METAL 10K
RV518	1-230-903-11	s	RES, ADJ, METAL 200K
RV520	1-230-843-11	s	RES, ADJ, METAL 10K
RV521	1-230-844-11	s	RES, ADJ, METAL 20K
RV701*	1-230-844-11	s	RES, ADJ, METAL 20K
RV702*	1-230-844-11	s	RES, ADJ, METAL 20K
RV703*	1-230-843-11	s	RES, ADJ, METAL 10K
RV704*	1-230-842-11	s	RES, ADJ, METAL 5K
RV705*	1-230-844-11	s	RES, ADJ, METAL 20K
RV706*	1-230-843-11	s	RES, ADJ, METAL 10K
RV707*	1-230-844-11	s	RES, ADJ, METAL 20K
RV708*	1-230-843-11	s	RES, ADJ, METAL 10K
RV709*	1-230-844-11	s	RES, ADJ, METAL 20K
RV710*	1-230-843-11	s	RES, ADJ, METAL 10K
RV711*	1-230-843-11	s	RES, ADJ, METAL 10K
RV712	1-230-844-11	s	RES, ADJ, METAL 20K
RV713	1-230-840-11	s	RES, ADJ, METAL 1K
RV714	1-230-843-11	s	RES, ADJ, METAL 10K
RV715*	1-230-840-11	s	RES, ADJ, METAL 1K
RV716	1-230-843-11	s	RES, ADJ, METAL 10K
RV717*	1-230-844-11	s	RES, ADJ, METAL 20K
RV718*	1-230-844-11	s	RES, ADJ, METAL 20K
RY101	1-515-683-11	s	RELAY
RY301	1-515-683-11	s	RELAY
RY501	1-515-683-11	s	RELAY
RY701*	1-515-683-11	s	RELAY

BC-12 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-127-11	o	PC BOARD, BC-12
CN371	1-560-302-00	o	RECEP, IL 5P MALE
R1	1-247-731-11	s	RES, CARBON 24 5% 1/2W
R2	1-247-731-11	s	RES, CARBON 24 5% 1/2W
R3	1-247-731-11	s	RES, CARBON 24 5% 1/2W
R4 (for PS-A4)	1-247-731-11	s	RES, CARBON 24 5% 1/2W
RV1	1-224-915-00	s	RES, ADJ, METAL 200
RV2	1-224-915-00	s	RES, ADJ, METAL 200
RV3	1-224-915-00	s	RES, ADJ, METAL 200
RV4 (for PS-A4)	1-224-915-00	s	RES, ADJ, METAL 200

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

CD-36 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6015-101-A	o	COMPLETE PCB, CD-36
4pcs	7-682-647-09	s	SCREW +PS 3X6
6pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	7-682-951-01	s	SCREW +PSW 3X14
1pc	7-684-023-04	s	N 3, TYPE 2
C6	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C7	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C8	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C13	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C15	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C19	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C23	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C26	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C27	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C28	1-101-006-00	s	CAP, CERAMIC 0.047uF 50V
C34	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C35	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C37	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C39	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C43	1-101-006-00	s	CAP, CERAMIC 0.047uF 50V
C44	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C45	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C47	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C49	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C50	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C55	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
CN101	1-560-724-00	o	RECEP, 10P MALE
CN102	1-560-725-00	o	RECEP, 16P MALE
CN103	1-560-300-00	o	RECEP, IL 3P MALE
CN104	1-560-726-00	o	RECEP, 20P MALE
CN105	1-560-302-00	o	RECEP, IL 5P MALE
CN106	1-560-301-00	o	RECEP, IL 4P MALE
D1	8-719-200-02	s	DIODE 10E-2
D2	8-719-933-28	s	DIODE DAP209S
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-933-30	s	DIODE DA210S
D8	8-719-933-30	s	DIODE DA210S
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-936-56	s	DIODE DAN209S
D12	8-719-933-30	s	DIODE DA210S
D13	8-719-936-56	s	DIODE DAN209S
D14	8-719-933-28	s	DIODE DAP209S
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-933-28	s	DIODE DAP209S
D17	8-719-936-56	s	DIODE DAN209S
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-55	s	DIODE U05G
D20	8-719-911-55	s	DIODE U05G
D21	8-719-911-55	s	DIODE U05G
IC1	8-759-135-80	s	IC UPC358C
IC2	8-759-145-58	s	IC UPC4558C
IC3	8-759-145-58	s	IC UPC4558C
IC4	8-759-145-58	s	IC UPC4558C
IC5	8-759-990-82	s	IC TL082CP
IC6	8-759-240-52	s	IC TC4052BP
IC7	8-759-990-82	s	IC TL082CP
IC8	8-759-240-52	s	IC TC4052BP
IC9	8-759-208-45	s	IC MP6901
IC10	8-759-103-93	s	IC UPC393C
IC11	8-759-103-93	s	IC UPC393C
IC12	8-759-145-58	s	IC UPC4558C
IC13	8-759-145-58	s	IC UPC4558C
IC14	8-759-990-82	s	IC TL082CP
IC15	8-759-135-80	s	IC UPC358C
IC16	8-759-131-11	s	IC UPC311C
IC17	8-759-103-93	s	IC UPC393C
IC18	8-759-208-45	s	IC MP6901
IC19	8-759-700-65	s	IC NJM79L05A
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q2	8-729-900-89	s	TRANSISTOR DTC144ES
Q3	8-729-382-63	s	TRANSISTOR 2SC1826-Y
Q4	8-729-900-80	s	TRANSISTOR DTC114ES
Q5	8-729-900-89	s	TRANSISTOR DTC144ES
Q6	8-729-900-89	s	TRANSISTOR DTC144ES
Q7	8-729-900-89	s	TRANSISTOR DTC144ES
Q8	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q9	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q10	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q11	8-729-900-89	s	TRANSISTOR DTC144ES
Q12	8-729-900-89	s	TRANSISTOR DTC144ES
Q13	8-729-900-89	s	TRANSISTOR DTC144ES
Q14	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q15	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q16	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q17	8-729-238-32	s	TRANSISTOR 2SC2383
Q18	8-729-238-32	s	TRANSISTOR 2SC2383
Q19	8-729-238-32	s	TRANSISTOR 2SC2383
Q20	8-729-900-80	s	TRANSISTOR DTC114ES
Q21	8-729-900-80	s	TRANSISTOR DTC114ES
Q22	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q23	8-729-238-32	s	TRANSISTOR 2SC2383
Q24	8-729-238-32	s	TRANSISTOR 2SC2383
Q25	8-729-238-32	s	TRANSISTOR 2SC2383
Q26	8-729-238-32	s	TRANSISTOR 2SC2383
Q27	8-729-383-73	s	TRANSISTOR 2SC2837
Q28	8-729-900-80	s	TRANSISTOR DTC114ES
Q29	8-729-900-80	s	TRANSISTOR DTC114ES
Q30	8-729-900-80	s	TRANSISTOR DTC114ES
R3	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R7	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R12	⚠ 1-217-568-00	s	RES, METAL 0.22 5% 2W
R14	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R15	1-215-454-00	s	RES, METAL 24K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(CD-36 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
R16	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R17	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R19	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R20	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R21	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R22	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R23	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R24	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R25	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R26	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R27	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R28	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R29	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R30	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R31	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R32	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R33	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R34	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R37	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R38	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R39	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R53	⚠ 1-249-413-11	s	RES, CARBON 470 5% 1/4W
R54	1-249-413-11	s	RES, CARBON 470 5% 1/4W
R55	1-249-413-11	s	RES, CARBON 470 5% 1/4W
R65	1-217-153-00	s	RES, METAL 0.47 10% 2W
R140	⚠ 1-249-401-11	s	RES, CARBON 47 5% 1/4W
R141	1-249-401-11	s	RES, CARBON 47 5% 1/4W
R142	1-249-401-11	s	RES, CARBON 47 5% 1/4W

CEH-2 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-588-946-00	o	PC BOARD, CEH-2

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

CK-27 BOARD, BVH-3000PS/3100PS

Board No.
1-621-749-11,12

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6025-114-A	o	COMPLETE PCB, CK-27
1pc	2-282-313-00	s	KNOB, VR
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
1pc	3-714-856-01	o	VCO INSULATOR
1pc	3-714-857-01	o	VCO CASE,SHEELD
1pc	7-621-737-08	s	SET-SCT,HEX. 2.6X3,FLAT POINT
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-533-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C2	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C3	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C4	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C5	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C6	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C7	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C8	1-131-381-00	s	CAP, TANT 47uF 10% 10V
C9	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C10	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C11	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C12	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C13	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C14	1-109-559-00	s	CAP, MICA 820PF 5% 100V
C15	1-109-552-11	s	CAP, MYCA 430PF 5% 100V
C16	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C17	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C18	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C19	1-109-558-00	s	CAP, MICA 750PF 5% 100V
C21	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C22	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C23	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C24	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C25	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C28	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C30	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C32	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C33	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C36	1-131-373-00	s	CAP, TANT 22uF 10% 16V
C37	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C38	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C39	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C40	1-109-561-00	s	CAP, MICA 0.001uF 5% 100V
C41	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C42	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C43	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C44	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C46	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C47	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C48	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C49	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C50	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C51	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C52	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C53	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C54	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C55	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C56	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C57	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C59	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C60	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C61	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C62	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C63	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C64	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C65	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C66	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C67	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C68	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C69	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C70	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C71	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C72	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C73	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C74	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C75	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C76	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C77	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C78	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C79	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C80	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C81	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C82	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C83	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C85	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C86	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C87	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C88	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C90	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C91	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C92	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C93	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C94	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C95	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C96	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C97	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C100	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C101	1-107-160-00	s	CAP, MICA 36PF 5% 500V
C104	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C105	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C106	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C107	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C108	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C109	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C110	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C111	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C113	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C114	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C116	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C117	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C118	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C119	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C120	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C121	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C122	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C123	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C125	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C126	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C127	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C129	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C130	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C132	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C133	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C134	1-131-365-00	s	CAP, TANT 10uF 20% 20V
C400	1-109-536-00	s	CAP, MICA 110PF 5% 100V
C401	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C402	1-124-282-00	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C403	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C408	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C412	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C413	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C414	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C420	1-102-111-00	s	CAP, CERAMIC 270PF 10% 50V
C500	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C501	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C502	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C505	1-124-284-00	s	CAP, ELECT NONPOLA 10uF 20% 16V
C510	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C511	1-102-121-00	s	CAP, CERAMIC 0.0022uF 10% 50V
C513	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C514	1-131-345-00	s	TANT 0.47uF 10% 35V
C515	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C705	1-131-381-00	s	CAP, TANT 47uF 10% 10V
C751	1-102-111-00	s	CAP, CERAMIC 270PF 10% 50V
CF1	1-527-497-00	s	FILTER, CERAMIC 4.55MHz
CN305	1-506-748-11	s	RECEP, DIN 96P MALE
CN306	1-506-748-11	s	RECEP, DIN 96P MALE
CP1	1-235-102-00	s	CR BLOCK
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-102-51	s	DIODE 1SZ51
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-903-24	s	DIODE SVC321SP-A2
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-903-24	s	DIODE SVC321SP-A2
D10	8-719-400-35	s	DIODE LN35BP
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-918-88	s	DIODE 1SS198
D13	8-719-918-88	s	DIODE 1SS198
D14	8-719-918-88	s	DIODE 1SS198

Ref. No. or Q'ty	Part No.	SP	Description
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-903-25	s	DIODE SVC321SP-B2
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D701	8-719-903-25	s	DIODE SVC321SP-B2
DL2	1-415-431-11	s	DELAY LINE 50nS
FL1	1-235-579-11	s	FILTER, BANDPASS 4.43MHz
IC1	8-759-922-42	s	IC MB81464-12
IC2	8-759-922-42	s	IC MB81464-12
IC3	8-752-015-81	s	IC CX20158
IC4	8-759-901-63	s	IC SN74LS163AN
IC5	8-759-900-00	s	IC SN74LS00N
IC6	8-759-901-64	s	IC SN74LS164N
IC8	8-759-900-20	s	IC SN74LS20N
IC9	8-759-900-04	s	IC SN74LS04N
IC10	8-759-990-82	s	IC TL082CP
IC11	8-759-918-71	s	IC CX23065
IC101	8-759-113-43	s	IC uPD41102C-1S
IC102	8-759-903-99	s	IC SN74LS399N
IC103	8-759-903-99	s	IC SN74LS399N
IC104	8-759-900-30	s	IC SN74LS30N
IC105	8-759-901-74	s	IC SN74LS174AN
IC106	8-759-900-74	s	IC SN74LS74AN
IC107	8-759-900-74	s	IC SN74LS74AN
IC108	8-759-900-08	s	IC SN74LS08N
IC301	8-759-990-82	s	IC TL082CP
IC302	8-759-103-93	s	IC uPC393C
IC701	8-759-001-16	s	IC MC10116L
ICA1	8-759-922-42	s	IC MB81464-12
ICA2	8-759-922-42	s	IC MB81464-12
ICA3	8-759-922-42	s	IC MB81464-12
ICA4	8-759-922-42	s	IC MB81464-12
ICA5	8-759-922-42	s	IC MB81464-12
ICA6	8-759-922-42	s	IC MB81464-12
ICA7	8-759-922-42	s	IC MB81464-12
ICA8	8-759-901-64	s	IC SN74LS164N
ICA9	8-759-900-74	s	IC SN74LS74AN
ICA11	8-759-939-99	s	IC MB8464A-80LP-SK
ICA12	8-759-939-99	s	IC MB8464A-80LP-SK
ICA13	8-759-939-99	s	IC MB8464A-80LP-SK
ICA14	8-759-939-99	s	IC MB8464A-80LP-SK
ICA15	8-759-990-82	s	IC TL082CP
ICB1	8-759-922-42	s	IC MB81464-12
ICB2	8-759-922-42	s	IC MB81464-12
ICB3	8-759-922-42	s	IC MB81464-12
ICB4	8-759-922-42	s	IC MB81464-12
ICB5	8-759-922-42	s	IC MB81464-12
ICB6	8-759-922-42	s	IC MB81464-12
ICB7	8-759-922-42	s	IC MB81464-12
ICB9	8-759-911-57	s	IC SN74S157N
ICB10	8-759-911-57	s	IC SN74S157N
ICB11	8-759-939-99	s	IC MB8464A-80LP-SK
ICB12	8-759-939-99	s	IC MB8464A-80LP-SK
ICB13	8-759-939-99	s	IC MB8464A-80LP-SK

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
ICB14	8-759-939-99	s	IC MB8464A-80LP-SK
ICB17	8-759-990-82	s	IC TL082CP
ICB19	8-759-930-80	s	IC CA3080E
ICB21	8-752-015-81	s	IC CX20158
ICC1	8-759-990-82	s	IC TL082CP
ICC7	8-759-900-69	s	IC SN74ALS74AN
ICC10	8-759-918-40	s	IC CX20194
ICC17	8-752-030-40	s	IC CXA1016P
ICC21	8-759-990-82	s	IC TL082CP
ICD1	8-759-990-82	s	IC TL082CP
ICD2	8-759-933-51	s	IC CXD1020Q
ICD5	8-759-933-51	s	IC CXD1020Q
ICD7	8-759-900-04	s	IC SN74LS04N
ICD8	8-759-901-63	s	IC SN74LS163AN
ICD9	8-759-901-63	s	IC SN74LS163AN
ICD10	8-759-901-63	s	IC SN74LS163AN
ICD19	8-749-938-10	s	IC BX-381
ICE1	8-759-201-41	s	IC TD62901P
ICE2	8-759-903-74	s	IC SN74LS374N
ICE3	8-759-903-74	s	IC SN74LS374N
ICE4	8-759-900-30	s	IC SN74LS30N
ICE5	8-759-900-32	s	IC SN74LS32N
ICE6	8-759-900-04	s	IC SN74LS04N
ICE7	8-759-900-69	s	IC SN74ALS74AN
ICE8	8-759-900-10	s	IC SN74LS10N
ICE9	8-759-900-04	s	IC SN74LS04N
ICE10	8-759-936-54	s	IC SN74ALS175N
ICE11	8-759-933-51	s	IC CXD1020Q
ICE14	8-759-933-51	s	IC CXD1020Q
ICE17	8-759-300-25	s	IC HD10125
ICE18	8-759-900-04	s	IC SN74LS04N
ICE19	8-759-900-74	s	IC SN74LS74AN
ICE20	8-759-901-23	s	IC SN74LS123N
ICE21	8-749-938-10	s	IC BX-381
ICF1	8-759-903-74	s	IC SN74LS374N
ICF4	8-759-113-43	s	IC UPD41102C-1S
ICF5	8-759-903-99	s	IC SN74LS399N
ICF6	8-759-903-99	s	IC SN74LS399N
ICF7	8-759-918-33	s	IC CX20160
ICF8	8-759-918-33	s	IC CX20160
ICF9	8-759-900-30	s	IC SN74LS30N
ICF10	8-759-901-57	s	IC SN74LS157N
ICF11	8-759-901-57	s	IC SN74LS157N
ICF12	8-759-901-57	s	IC SN74LS157N
ICF13	8-759-902-83	s	IC SN74LS283N
ICF14	8-759-903-99	s	IC SN74LS399N
ICF15	8-759-903-99	s	IC SN74LS399N
ICF16	8-759-900-68	s	IC SN74ALS30AN
ICF17	8-759-300-25	s	IC HD10125
ICF18	8-759-900-00	s	IC SN74LS00N
ICF19	8-759-900-74	s	IC SN74LS74AN
ICF20	8-759-912-05	s	IC SN74ALS161BN
ICG1	8-759-900-74	s	IC SN74LS74AN
ICG2	8-759-900-74	s	IC SN74LS74AN
ICG3	8-759-900-74	s	IC SN74LS74AN
ICG4	8-759-900-08	s	IC SN74LS08N
ICG5	8-759-900-02	s	IC SN74LS02N
ICG6	8-759-901-75	s	IC SN74LS175N

Ref. No. or Q'ty	Part No.	SP	Description
ICG7	8-759-901-63	s	IC SN74LS163AN
ICG8	8-759-901-63	s	IC SN74LS163AN
ICG9	8-759-901-63	s	IC SN74LS163AN
ICG12	8-759-901-57	s	IC SN74LS157N
ICG13	8-759-902-83	s	IC SN74LS283N
ICG14	8-759-906-69	s	IC SN74LS669N
ICG15	8-759-906-69	s	IC SN74LS669N
ICG16	8-759-900-00	s	IC SN74LS00N
ICG17	8-759-001-16	s	IC MC10116L
ICG18	8-759-901-23	s	IC SN74LS123N
ICG19	8-759-900-74	s	IC SN74LS74AN
ICG20	8-759-902-21	s	IC SN74LS221N
ICG21	8-759-901-64	s	IC SN74LS164N
ICH1	8-759-901-64	s	IC SN74LS164N
ICH2	8-759-901-64	s	IC SN74LS164N
ICH3	8-759-300-25	s	IC HD10125
ICH4	8-759-900-04	s	IC SN74LS04N
ICH5	8-759-904-18	s	IC SN74ALS00AN
ICH6	8-759-901-38	s	IC SN74LS138N
ICH7	8-759-936-54	s	IC SN74ALS175N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-912-07	s	IC SN74ALS163AN
ICH10	8-759-912-07	s	IC SN74ALS163AN
ICH11	8-759-912-07	s	IC SN74ALS163AN
ICH12	8-759-900-68	s	IC SN74ALS30AN
ICH13	8-759-904-09	s	IC SN74LS688N
ICH14	8-759-906-69	s	IC SN74LS669N
ICH15	8-759-906-69	s	IC SN74LS669N
ICH19	8-759-900-04	s	IC SN74LS04N
ICH20	8-759-902-21	s	IC SN74LS221N
ICH21	8-759-902-21	s	IC SN74LS221N
ICJ1	8-759-901-51	s	IC SN74LS151P
ICJ2	8-759-900-04	s	IC SN74LS04N
ICJ3	8-759-901-63	s	IC SN74LS163AN
ICJ4	8-759-901-63	s	IC SN74LS163AN
ICJ5	8-759-900-00	s	IC SN74LS00N
ICJ6	8-759-900-00	s	IC SN74LS00N
ICJ7	8-759-900-04	s	IC SN74LS04N
ICJ8	8-759-900-74	s	IC SN74LS74AN
ICJ9	8-759-904-33	s	IC SN74ALS20AN
ICJ10	8-759-900-32	s	IC SN74LS32N
ICJ11	8-759-900-69	s	IC SN74ALS74AN
ICJ12	8-759-904-26	s	IC SN74ALS08N
ICJ13	8-759-901-23	s	IC SN74LS123N
ICJ14	8-759-901-74	s	IC SN74LS174N
ICJ15	8-759-900-74	s	IC SN74LS74AN
ICJ16	8-759-300-25	s	IC HD10125
ICJ17	8-759-990-82	s	IC TL082CP
ICJ19	8-749-938-10	s	IC BX-381
ICJ21	8-759-990-82	s	IC TL082CP
ICK1	8-759-901-53	s	IC SN74LS153N
ICK2	8-759-901-51	s	IC SN74LS151N
ICK3	8-759-901-51	s	IC SN74LS151N
ICK4	8-759-900-74	s	IC SN74LS74AN
ICK5	8-759-901-75	s	IC SN74LS175N
ICK6	8-759-900-08	s	IC SN74LS08N
ICK7	8-759-900-00	s	IC SN74LS00N
ICK8	8-759-900-20	s	IC SN74LS20N

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
ICK9	8-759-901-23	s	IC SN74LS123N
ICK10	8-759-901-63	s	IC SN74LS163AN
ICK11	8-759-900-08	s	IC SN74LS08N
ICK12	8-759-900-74	s	IC SN74LS74AN
ICK13	8-759-900-08	s	IC SN74LS08N
ICK14	8-759-900-10	s	IC SN74LS10N
ICK15	8-759-901-53	s	IC SN74LS153N
ICK16	8-759-900-74	s	IC SN74LS74AN
ICK17	8-759-902-21	s	IC SN74LS221N
ICK19	8-759-904-20	s	IC MB4002
ICK21	8-759-918-23	s	IC NE527N
ICL2	8-759-111-69	s	IC UPC1037HA
ICL3	8-759-111-69	s	IC UPC1037HA
ICL4	8-759-918-93	s	IC SN75207N
ICL5	8-759-900-74	s	IC SN74LS74AN
ICL6	8-759-902-21	s	IC SN74LS221N
ICL7	8-759-900-04	s	IC SN74LS04N
ICL8	8-759-900-86	s	IC SN74LS86N
ICL9	8-759-900-74	s	IC SN74LS74AN
ICL10	8-759-901-63	s	IC SN74LS163AN
ICL11	8-759-900-86	s	IC SN74LS86N
ICL12	8-759-902-21	s	IC SN74LS221N
ICL13	8-759-900-00	s	IC SN74LS00N
ICL14	8-759-900-69	s	IC SN74ALS74AN
ICL15	8-759-900-00	s	IC SN74LS00N
ICL16	8-759-900-04	s	IC SN74LS04N
ICL17	8-759-900-04	s	IC SN74LS04N
ICL19	8-759-990-82	s	IC TL082CP
ICL21	8-759-936-51	s	IC BX-365A
ICM1	8-759-202-26	s	IC TC74HC138P
ICM2	8-759-900-04	s	IC SN74LS04N
ICM3	8-759-901-23	s	IC SN74LS123N
ICM4	8-759-902-21	s	IC SN74LS221N
ICM5	8-759-900-10	s	IC SN74LS10N
ICM6	8-759-900-74	s	IC SN74LS74AN
ICM7	8-759-103-93	s	IC UPC393C
ICM8	8-759-918-71	s	IC CX23065
ICM9	8-759-900-74	s	IC SN74LS74AN
ICM10	8-759-901-23	s	IC SN74LS123N
ICM11	8-759-900-04	s	IC SN74LS04N
ICM12	8-759-900-74	s	IC SN74LS74AN
ICM13	8-759-901-63	s	IC SN74LS163AN
ICM14	8-759-901-63	s	IC SN74LS163AN
ICM15	8-759-904-20	s	IC MB4002
ICM18	8-759-990-82	s	IC TL082CP
ICM19	8-749-938-10	s	IC BX-381
ICM21	8-759-990-82	s	IC TL082CP
ICN1	8-759-203-21	s	IC TC74HC273P
ICN2	8-759-203-21	s	IC TC74HC273P
ICN3	8-759-900-74	s	IC SN74LS74AN
ICN4	8-759-900-74	s	IC SN74LS74AN
ICN5	8-759-103-93	s	IC UPC393C
ICN6	8-759-103-93	s	IC UPC393C
ICN8	8-749-938-10	s	IC BX-381
ICN9	8-759-901-23	s	IC SN74LS123N
ICN10	8-759-901-23	s	IC SN74LS123N

Ref. No. or Q'ty	Part No.	SP	Description
ICN11	8-759-901-23	s	IC SN74LS123N
ICN12	8-759-900-08	s	IC SN74LS08N
ICN13	8-759-901-23	s	IC SN74LS123N
ICN14	8-759-900-00	s	IC SN74LS00N
ICN16	8-759-990-82	s	IC TL082CP
ICN17	8-749-938-10	s	IC BX-381
ICN21	8-759-990-82	s	IC TL082CP
ICP1	8-759-900-00	s	IC SN74LS00N
ICP2	8-759-900-51	s	IC SN74LS51N
ICP3	8-759-900-74	s	IC SN74LS74AN
ICP4	8-759-900-08	s	IC SN74LS08N
ICP5	8-759-900-32	s	IC SN74LS32N
ICP6	8-759-900-74	s	IC SN74LS74AN
ICP7	8-759-918-40	s	IC CX20194
ICP9	8-759-901-23	s	IC SN74LS123N
ICP11	8-759-900-74	s	IC SN74LS74AN
ICP12	8-759-901-75	s	IC SN74LS175N
ICP13	8-759-900-04	s	IC SN74LS04N
ICP14	8-759-900-33	s	IC SN74LS33N
ICP15	8-759-918-40	s	IC CX20194
ICP16	8-759-990-82	s	IC TL082CP
ICP18	8-759-016-48	s	IC MC1648P
ICP20	8-759-240-53	s	IC TC4053BP
L1	1-408-409-00	s	INDUCTOR 10UH 5%
L2	1-408-409-00	s	INDUCTOR 10UH 5%
L3	1-408-409-00	s	INDUCTOR 10UH 5%
L4	1-408-409-00	s	INDUCTOR 10UH 5%
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-421-370-00	s	COIL, CHOKE
L8	1-421-370-00	s	COIL, CHOKE
L9	1-421-370-00	s	COIL, CHOKE
L10	1-421-370-00	s	COIL, CHOKE
L11	1-421-370-00	s	COIL, CHOKE
L12	1-408-409-00	s	INDUCTOR 10UH 5%
L13	1-408-409-00	s	INDUCTOR 10UH 5%
L14	1-408-409-00	s	INDUCTOR 10UH 5%
L15	1-408-409-00	s	INDUCTOR 10UH 5%
L16	1-408-409-00	s	INDUCTOR 10UH 5%
L17	1-408-409-00	s	INDUCTOR 10UH 5%
L18	1-408-414-00	s	INDUCTOR 27UH 5%
L701	1-410-956-11	s	INDUCTOR,VAR
LPF1	1-231-621-00	s	FILTER, LOW-PASS
LV1	1-409-403-11	s	COIL, TUNING
LV2	1-410-286-11	s	INDUCTOR, VAR 1UH
LV3	1-409-405-11	s	COIL, TUNING
LV4	1-409-404-11	s	COIL, TUNING
LV7	1-410-285-11	s	INDUCTOR, VAR 0.68UH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q3	8-729-900-61	s	TRANSISTOR DTA114ES
Q4	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q5	8-729-900-61	s	TRANSISTOR DTA114ES
Q6	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q7	8-729-900-61	s	TRANSISTOR DTA114ES
Q8	8-729-204-83	s	TRANSISTOR 2SA1048-GR

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
Q9	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q10	8-729-190-12	s	TRANSISTOR 2SC2901
Q11	8-729-900-61	s	TRANSISTOR DTA114ES
Q12	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q13	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q14	8-729-900-61	s	TRANSISTOR DTA114ES
Q15	8-729-190-12	s	TRANSISTOR 2SC2901
Q16	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q17	8-729-900-61	s	TRANSISTOR DTA114ES
Q18	8-729-190-12	s	TRANSISTOR 2SC2901
Q19	8-729-190-12	s	TRANSISTOR 2SC2901
Q20	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q21	8-729-900-61	s	TRANSISTOR DTA114ES
Q22	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q23	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q24	8-729-900-61	s	TRANSISTOR DTA114ES
Q25	8-729-105-71	s	TRANSISTOR 2SK523-K2
R1	1-215-397-00	s	RES, METAL 100 1% 1/6W
R2	1-215-397-00	s	RES, METAL 100 1% 1/6W
R20	1-215-406-00	s	RES, METAL 240 1% 1/6W
R21	1-215-408-00	s	RES, METAL 300 1% 1/6W
R23	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R31	1-215-416-00	s	RES, METAL 620 1% 1/6W
R32	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R33	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R34	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R40	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R41	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R42	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R43	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R44	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R57	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R62	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R88	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R89	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R97	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R102	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R105	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R106	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R114	1-247-838-00	s	RES, CARBON 2K 5% 1/6W
R117	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R119	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R129	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R131	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R135	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R141	1-247-849-00	s	RES, CARBON 5.6K 5% 1/4W
R145	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R146	1-215-412-00	s	RES, METAL 430 1% 1/6W
R147	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R148	1-215-412-00	s	RES, METAL 430 1% 1/6W
R149	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R150	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R152	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R163	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R164	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R165	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R169	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R170	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R171	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R172	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R180	1-247-838-00	s	RES, CARBON 2K 5% 1/6W
R182	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R187	1-215-426-00	s	RES, METAL 1.6K 1% 1/6W
R193	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R195	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R196	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R213	1-215-408-00	s	RES, METAL 300 1% 1/6W
R226	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R228	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R239	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R300	1-247-895-00	s	RES, CARBON 470K 5% 1/6W
R302	1-214-581-00	s	RES, METAL 10K 1% 1/8W
R303	1-214-581-00	s	RES, METAL 10K 1% 1/8W
R304	1-214-575-00	s	RES, METAL 5.6K 1% 1/8W
R306	1-214-581-00	s	RES, METAL 10K 1% 1/8W
R307	1-214-557-00	s	RES, METAL 1K 1% 1/8W
R308	1-214-567-00	s	RES, METAL 2.7K 1% 1/8W
R309	1-214-581-00	s	RES, METAL 10K 1% 1/8W
R311	1-214-569-00	s	RES, METAL 3.3K 1% 1/8W
R517	1-215-420-00	s	RES, METAL 910 1% 1/6W
R701	1-214-521-00	s	RES, METAL 33 1% 1/8W
R702	1-214-569-00	s	RES, METAL 3.3K 1% 1/8W
R703	1-214-555-00	s	RES, METAL 820 1% 1/8W
R704	1-214-569-00	s	RES, METAL 3.3K 1% 1/8W
R705	1-214-551-00	s	RES, METAL 560 1% 1/8W
R706	1-214-551-00	s	RES, METAL 560 1% 1/8W
R707	1-214-551-00	s	RES, METAL 560 1% 1/8W
R708	1-214-551-00	s	RES, METAL 560 1% 1/8W
R709	1-214-569-00	s	RES, METAL 3.3K 1% 1/8W
R710	1-214-555-00	s	RES, METAL 820 1% 1/8W
R711	1-214-521-00	s	RES, METAL 33 1% 1/8W
RB1	1-231-503-00	s	RESISTOR BLOCK 560x4
RB2	1-231-403-00	s	RESISTOR BLOCK 560x8
RV1	1-237-254-11	s	RES, ADJ, METAL 50
RV2	1-230-839-11	s	RES, ADJ, METAL 500
RV3	1-237-260-11	s	RES, ADJ, METAL 5K
RV4	1-230-842-11	s	RES, ADJ, METAL 5K
RV5	1-230-842-11	s	RES, ADJ, METAL 5K
RV6	1-230-842-11	s	RES, ADJ, METAL 5K
RV7	1-230-840-11	s	RES, ADJ, METAL 1K
RV8	1-230-841-11	s	RES, ADJ, METAL 2K
RV9	1-230-740-21	s	RES, VAR, CARBON 5K(B)
RV11	1-230-846-11	s	RES, ADJ, METAL 100K
RV12	1-230-842-11	s	RES, ADJ, METAL 5K
RV14	1-230-844-11	s	RES, ADJ, METAL 20K
RV15	1-230-843-11	s	RES, ADJ, METAL 10K
RV40	1-228-457-00	s	RES, ADJ, CERMET 2K
RV41	1-228-457-00	s	RES, ADJ, CERMET 2K
RV42	1-228-460-00	s	RES, ADJ, CERMET 20K

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

CK-27 BOARD, BVH-3000PS/3100PS

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6025-114-A	o	COMPLETE PCB, CK-27
1pc	2-282-313-00	s	KNOB, VR
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
1pc	3-714-856-01	o	VCO INSULATOR
1pc	3-714-857-01	o	VCO CASE,SHEELD
1pc	7-621-737-08	s	SET-SCT,HEX. 2.6X3,FLAT POINT
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-533-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C2	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C3	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C4	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C5	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C6	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C7	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C8	1-131-387-00	s	CAP, TANT 47uF 10% 6.3V
C9	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C10	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C11	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C12	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C13	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C16	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C17	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C18	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C19	1-164-129-11	s	CAP, CERAMIC 750PF 5% 50V
C21	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C22	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C23	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C24	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C25	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C26	1-164-120-11	s	CAP, CERAMIC 130PF 5% 50V
C27	1-162-881-11	s	CAP, CERAMIC 150PF 5% 50V
C28	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C29	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C30	1-162-753-11	s	CAP, CERAMIC 100PF 5% 50V
C32	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C33	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C36	1-131-373-00	s	CAP, TANT 22uF 10% 16V
C37	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C38	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C39	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C40	1-162-765-11	s	CAP, CERAMIC 0.001uF 5% 50V
C41	1-162-753-11	s	CAP, CERAMIC 100PF 5% 50V
C42	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C43	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C44	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C46	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C47	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C48	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C49	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C50	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C51	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C52	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C53	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C54	1-124-236-00	s	CAP, ELECT 47uF 20% 16V

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
C55	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C56	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C57	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C59	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C60	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C61	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C62	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C63	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C64	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C65	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C66	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C67	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C68	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C69	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C70	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C71	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C72	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C73	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C74	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C75	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C76	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C77	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C78	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C79	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C80	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C81	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C82	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C83	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C84	1-162-881-11	s	CAP, CERAMIC 150PF 5% 50V
C85	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C86	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C87	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C88	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C89	1-164-122-11	s	CAP, CERAMIC 200PF 5% 50V
C90	1-162-753-11	s	CAP, CERAMIC 100PF 5% 50V
C91	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C92	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C93	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 5
C94	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C95	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C96	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50
C97	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C100	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C101	1-107-160-00	s	CAP, MICA 36PF 5% 500V
C104	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C105	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50
C106	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C107	1-162-753-11	s	CAP, CERAMIC 100PF 5% 50V
C108	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C109	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C110	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C111	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C112	1-162-887-11	s	CAP, CERAMIC 270PF 5% 50V
C113	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C114	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C116	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C125	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C126	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
C127	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C129	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C130	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C132	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C133	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C134	1-131-365-00	s	CAP, TANT 10uF 20% 20V
C400	1-164-119-11	s	CAP, CERAMIC 110PF 5% 50V
C401	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C402	1-124-282-00	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C403	1-164-127-11	s	CAP, CERAMIC 510PF 5% 50V
C408	1-124-584-00	s	CAP, ELECT 100uF 20% 10V
C410	1-164-120-11	s	CAP, CERAMIC 130PF 5% 50V
C412	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C413	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C414	1-131-348-00	s	CAP, TANTALUM 1.5uF 10% 35V
C420	1-102-111-00	s	CAP, CERAMIC 270PF 10% 50V
C505	1-124-284-00	s	CAP, ELECT NONPOLAR 10uF 20% 16V
C510	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C514	1-131-345-00	s	TANT 0.47uF 10% 35V
C515	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C705	1-131-381-00	s	CAP, TANT 47uF 10% 6.3V
C751	1-102-111-00	s	CAP, CERAMIC 270PF 10% 50V
C777	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C778	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C800	1-162-881-11	s	CAP, CERAMIC 150PF 5% 50V
C801	1-162-710-11	s	CAP, CERAMIC 100PF 5% 50V
C802	1-162-881-11	s	CAP, CERAMIC 150PF 5% 50V
C803	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C804	1-162-726-11	s	CAP, CERAMIC 470PF 1% 50V
C805	1-130-495-11	s	CAP, MYLAR 0.1uF 5% 50V
C807	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C808	1-107-037-00	s	CAP, MICA 82PF 5% 500V
C809	1-162-763-11	s	CAP, CERAMIC 680PF 5% 50V
C810	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C811	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C814	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C815	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C816	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C819	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C820	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C821	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
CN305	1-506-748-11	s	RECEP, DIN 96P MALE
CN306	1-506-748-11	s	RECEP, DIN 96P MALE
CP1	1-235-102-00	s	CR BLOCK
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-102-51	s	DIODE 1SZ51
D5	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-903-25	s	DIODE SVC321SP-B2
D10	8-719-400-35	s	DIODE LN35BP
D12	8-719-918-88	s	DIODE 1SS198
D13	8-719-918-88	s	DIODE 1SS198
D14	8-719-918-88	s	DIODE 1SS198

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
D15	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D701	8-719-903-25	s	DIODE SVC321SP-B2
DL2	1-415-431-11	s	DELAY LINE 50nS
FL1	1-235-579-11	s	FILTER, BANDPASS 4.43MHz
IC1	8-759-922-42	s	IC MB81464-12
IC2	8-759-922-42	s	IC MB81464-12
IC3	8-752-015-81	s	IC CX20158
IC4	8-759-901-63	s	IC SN74LS163AN
IC5	8-759-900-00	s	IC SN74LS00N
IC6	8-759-901-64	s	IC SN74LS164N
IC8	8-759-900-20	s	IC SN74LS20N
IC9	8-759-900-04	s	IC SN74LS04N
IC10	8-759-990-82	s	IC TL082CP
IC11	8-759-918-71	s	IC CX23065
IC701	8-759-001-16	s	IC MC10116L
ICA1	8-759-922-42	s	IC MB81464-12
ICA2	8-759-922-42	s	IC MB81464-12
ICA3	8-759-922-42	s	IC MB81464-12
ICA4	8-759-922-42	s	IC MB81464-12
ICA5	8-759-922-42	s	IC MB81464-12
ICA6	8-759-922-42	s	IC MB81464-12
ICA7	8-759-922-42	s	IC MB81464-12
ICA9	8-759-911-57	s	IC SN74S157N
ICA10	8-759-911-57	s	IC SN74S157N
ICA11	8-759-900-74	s	IC SN74LS74AN
ICA12	8-759-939-99	s	IC MB8464A-80LP-SK
ICA13	8-759-939-99	s	IC MB8464A-80LP-SK
ICA14	8-759-939-99	s	IC MB8464A-80LP-SK
ICA15	8-759-939-99	s	IC MB8464A-80LP-SK
ICB1	8-759-922-42	s	IC MB81464-12
ICB2	8-759-922-42	s	IC MB81464-12
ICB3	8-759-922-42	s	IC MB81464-12
ICB4	8-759-922-42	s	IC MB81464-12
ICB5	8-759-922-42	s	IC MB81464-12
ICB6	8-759-922-42	s	IC MB81464-12
ICB7	8-759-922-42	s	IC MB81464-12
ICB8	8-759-900-74	s	IC SN74LS74AN
ICB9	8-759-901-63	s	IC SN74LS163AN
ICB10	8-759-901-63	s	IC SN74LS163AN
ICB11	8-759-901-23	s	IC SN74LS123N
ICB12	8-759-939-99	s	IC MB8464A-80LP-SK
ICB13	8-759-939-99	s	IC MB8464A-80LP-SK
ICB14	8-759-939-99	s	IC MB8464A-80LP-SK
ICB15	8-759-939-99	s	IC MB8464A-80LP-SK
ICB17	8-759-990-82	s	IC TL082CP
ICB19	8-759-930-80	s	IC CA3080E
ICB21	8-752-015-81	s	IC CX20158
ICC1	8-759-990-82	s	IC TL082CP
ICC7	8-759-900-04	s	IC SN74LS04N
ICC8	8-759-901-63	s	IC SN74LS163AN
ICC9	8-759-900-04	s	IC SN74LS04N
ICC10	8-759-936-54	s	IC SN74ALS175N
ICC11	8-759-918-40	s	IC CX20194

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICC17	8-752-030-40	s	IC CXA1016P
ICC19	8-759-990-82	s	IC TL082CP
ICC21	8-759-990-82	s	IC TL082CP
ICD1	8-759-990-82	s	IC TL082CP
ICD2	8-759-933-51	s	IC CXD1020Q
ICD5	8-759-933-51	s	IC CXD1020Q
ICD7	8-759-900-69	s	IC SN74ALS74AN
ICD8	8-759-900-10	s	IC SN74LS10N
ICD9	8-759-900-74	s	IC SN74LS74AN
ICD10	8-759-900-08	s	IC SN74LS08N
ICD19	8-749-901-26	s	IC BX-381L
ICE1	8-759-201-41	s	IC TD62901P
ICE2	8-759-900-30	s	IC SN74LS30N
ICE3	8-759-903-74	s	IC SN74LS374N
ICE4	8-759-903-74	s	IC SN74LS374N
ICE5	8-759-900-30	s	IC SN74LS30N
ICE6	8-759-900-32	s	IC SN74LS32N
ICE7	8-759-900-04	s	IC SN74LS04N
ICE8	8-759-901-64	s	IC SN74LS164N
ICE9	8-759-900-30	s	IC SN74LS30N
ICE10	8-759-900-69	s	IC SN74ALS74AN
ICE11	8-759-933-51	s	IC CXD1020Q
ICE14	8-759-933-51	s	IC CXD1020Q
ICE17	8-759-300-25	s	IC HD10125
ICE18	8-759-900-04	s	IC SN74LS04N
ICE19	8-759-900-74	s	IC SN74LS74AN
ICE20	8-759-901-23	s	IC SN74LS123N
ICE21	8-749-901-26	s	IC BX-381L
ICF1	8-759-903-74	s	IC SN74LS374N
ICF3	8-759-903-99	s	IC SN74LS399N
ICF4	8-759-903-99	s	IC SN74LS399N
ICF5	8-759-113-43	s	IC UPD41102C-1S
ICF6	8-759-903-99	s	IC SN74LS399N
ICF8	8-759-918-33	s	IC CX20160
ICF9	8-759-918-33	s	IC CX20160
ICF10	8-759-901-57	s	IC SN74LS157N
ICF11	8-759-901-57	s	IC SN74LS157N
ICF12	8-759-901-57	s	IC SN74LS157N
ICF13	8-759-902-83	s	IC SN74LS283N
ICF14	8-759-903-99	s	IC SN74LS399N
ICF15	8-759-903-99	s	IC SN74LS399N
ICF16	8-759-900-68	s	IC SN74ALS30AN
ICF17	8-759-300-25	s	IC HD10125
ICF18	8-759-900-00	s	IC SN74LS00N
ICF19	8-759-900-74	s	IC SN74LS74AN
ICF20	8-759-912-05	s	IC SN74ALS161BN
ICG1	8-759-901-74	s	IC SN74LS174N
ICG2	8-759-900-74	s	IC SN74LS74AN
ICG3	8-759-900-74	s	IC SN74LS74AN
ICG4	8-759-900-08	s	IC SN74LS08N
ICG5	8-759-900-02	s	IC SN74LS02N
ICG6	8-759-901-75	s	IC SN74LS175N
ICG7	8-759-901-63	s	IC SN74LS163AN
ICG8	8-759-901-63	s	IC SN74LS163AN
ICG9	8-759-901-63	s	IC SN74LS163AN
ICG11	8-759-900-74	s	IC SN74LS74AN
ICG12	8-759-901-57	s	IC SN74LS157N
ICG13	8-759-902-83	s	IC SN74LS283N
ICG14	8-759-906-69	s	IC SN74LS669N

(CK-27 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-749-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICG15	8-759-906-69	s	IC SN74LS669N
ICG16	8-759-900-00	s	IC SN74LS00N
ICG17	8-759-001-16	s	IC MC10116L
ICG18	8-759-901-23	s	IC SN74LS123N
ICG19	8-759-900-74	s	IC SN74LS74AN
ICG20	8-759-902-21	s	IC SN74LS221N
ICG21	8-759-901-64	s	IC SN74LS164N
ICH1	8-759-901-64	s	IC SN74LS164N
ICH2	8-759-901-64	s	IC SN74LS164N
ICH3	8-759-300-25	s	IC HD10125
ICH4	8-759-900-04	s	IC SN74LS04N
ICH5	8-759-904-18	s	IC SN74ALS00AN
ICH6	8-759-901-38	s	IC SN74LS138N
ICH7	8-759-936-54	s	IC SN74ALS175N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-912-07	s	IC SN74ALS163AN
ICH10	8-759-912-07	s	IC SN74ALS163AN
ICH11	8-759-912-07	s	IC SN74ALS163AN
ICH12	8-759-900-68	s	IC SN74ALS30AN
ICH13	8-759-904-09	s	IC SN74LS688N
ICH14	8-759-906-69	s	IC SN74LS669N
ICH15	8-759-906-69	s	IC SN74LS669N
ICH19	8-759-900-04	s	IC SN74LS04N
ICH20	8-759-902-21	s	IC SN74LS221N
ICH21	8-759-902-21	s	IC SN74LS221N
ICJ1	8-759-901-51	s	IC SN74LS151P
ICJ2	8-759-900-04	s	IC SN74LS04N
ICJ3	8-759-901-63	s	IC SN74LS163AN
ICJ4	8-759-901-63	s	IC SN74LS163AN
ICJ5	8-759-900-00	s	IC SN74LS00N
ICJ6	8-759-989-69	s	IC SN74LS86AN
ICJ7	8-759-900-04	s	IC SN74LS04N
ICJ8	8-759-900-74	s	IC SN74LS74AN
ICJ9	8-759-904-33	s	IC SN74ALS20AN
ICJ10	8-759-900-32	s	IC SN74LS32N
ICJ11	8-759-900-69	s	IC SN74ALS74AN
ICJ12	8-759-904-26	s	IC SN74ALS08N
ICJ13	8-759-901-23	s	IC SN74LS123N
ICJ14	8-759-901-74	s	IC SN74LS174N
ICJ15	8-759-900-74	s	IC SN74LS74AN
ICJ16	8-759-300-25	s	IC HD10125
ICJ17	8-759-990-82	s	IC TL082CP
ICJ19	8-749-938-10	s	IC BX-381
ICJ21	8-759-990-82	s	IC TL082CP
ICK1	8-759-901-53	s	IC SN74LS153N
ICK2	8-759-901-51	s	IC SN74LS151N
ICK3	8-759-901-51	s	IC SN74LS151N
ICK4	8-759-902-21	s	IC SN74LS221N
ICK5	8-759-901-75	s	IC SN74LS175N
ICK6	8-759-900-08	s	IC SN74LS08N
ICK7	8-759-900-04	s	IC SN74LS04N
ICK8	8-759-900-20	s	IC SN74LS20N
ICK9	8-759-901-23	s	IC SN74LS123N
ICK10	8-759-901-63	s	IC SN74LS163AN
ICK11	8-759-900-08	s	IC SN74LS08N
ICK12	8-759-900-74	s	IC SN74LS74AN

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
ICK13	8-759-900-08	s	IC SN74LS08N
ICK14	8-759-900-10	s	IC SN74LS10N
ICK15	8-759-901-53	s	IC SN74LS153N
ICK16	8-759-900-74	s	IC SN74LS74AN
ICK17	8-759-902-21	s	IC SN74LS221N
ICK19	8-759-904-20	s	IC MB4002
ICK21	8-759-918-23	s	IC NE527N
ICL1	8-741-101-11	s	IC BX-1101A
ICL3	8-759-906-07	s	IC TL607CP
ICL4	8-759-990-82	s	IC TL082CP
ICL5	8-759-918-93	s	IC SN75207N
ICL6	8-759-900-08	s	IC SN74LS08N
ICL7	8-759-900-74	s	IC SN74LS74AN
ICL8	8-759-900-30	s	IC SN74LS33N
ICL9	8-759-900-74	s	IC SN74LS74AN
ICL10	8-759-901-63	s	IC SN74LS163AN
ICL11	8-759-989-69	s	IC SN74LS86AN
ICL12	8-759-901-23	s	IC SN74LS123N
ICL13	8-759-900-00	s	IC SN74LS00N
ICL14	8-759-900-69	s	IC SN74ALS74AN
ICL15	8-759-900-00	s	IC SN74LS00N
ICL16	8-759-900-04	s	IC SN74LS04N
ICL17	8-759-900-04	s	IC SN74LS04N
ICL19	8-759-990-82	s	IC TL082CP
ICL21	8-749-900-63	s	IC BX-365AL
ICM1	8-759-202-26	s	IC TC74HC138P
ICM2	8-759-900-04	s	IC SN74LS04N
ICM3	8-759-901-23	s	IC SN74LS123N
ICM4	8-759-902-21	s	IC SN74LS221N
ICM5	8-759-900-74	s	IC SN74LS74AN
ICM6	8-759-900-74	s	IC SN74LS74AN
ICM7	8-759-103-93	s	IC UPC393C
ICM8	8-759-918-71	s	IC CX23065
ICM9	8-759-900-74	s	IC SN74LS74AN
ICM10	8-759-901-23	s	IC SN74LS123N
ICM11	8-759-900-04	s	IC SN74LS04N
ICM12	8-759-900-74	s	IC SN74LS74AN
ICM13	8-759-901-63	s	IC SN74LS163AN
ICM14	8-759-904-20	s	IC MB4002
ICM15	8-759-103-93	s	IC UPC393C
ICM16	8-759-990-82	s	IC TL082CP
ICM18	8-759-990-82	s	IC TL082CP
ICM19	8-749-901-26	s	IC BX-381L
ICM21	8-759-990-82	s	IC TL082CP
ICN1	8-759-916-79	s	IC SN74HC273N
ICN2	8-759-916-79	s	IC SN74HC273N
ICN3	8-759-900-74	s	IC SN74LS74AN
ICN4	8-759-900-74	s	IC SN74LS74AN
ICN5	8-759-900-10	s	IC SN74LS10N
ICN6	8-759-103-93	s	IC UPC393C
ICN8	8-749-901-26	s	IC BX-381L
ICN9	8-759-901-23	s	IC SN74LS123N
ICN10	8-759-901-23	s	IC SN74LS123N
ICN11	8-759-901-23	s	IC SN74LS123N
ICN12	8-759-900-08	s	IC SN74LS08N
ICN13	8-759-901-63	s	IC SN74LS163AN

Ref. No. or Q'ty	Part No.	SP	Description
ICN14	8-759-900-00	s	IC SN74LS00N
ICN16	8-759-990-82	s	IC TL082CP
ICN17	8-749-901-26	s	IC BX-381L
ICN21	8-759-990-82	s	IC TL082CP
ICP1	8-759-900-00	s	IC SN74LS00N
ICP2	8-759-208-10	s	IC TC4053BPHB
ICP3	8-759-900-74	s	IC SN74LS74AN
ICP4	8-759-900-08	s	IC SN74LS08N
ICP5	8-759-900-32	s	IC SN74LS32N
ICP6	8-759-900-74	s	IC SN74LS74AN
ICP7	8-759-918-40	s	IC CX20194
ICP9	8-759-901-23	s	IC SN74LS123N
ICP11	8-759-900-74	s	IC SN74LS74AN
ICP12	8-759-901-75	s	IC SN74LS175N
ICP13	8-759-900-04	s	IC SN74LS04N
ICP14	8-759-900-33	s	IC SN74LS33N
ICP15	8-759-918-40	s	IC CX20194
ICP16	8-759-990-82	s	IC TL082CP
ICP18	8-759-016-48	s	IC MC1648P
ICP20	8-759-208-10	s	IC TC4053BPHB
L1	1-408-409-00	s	INDUCTOR 10UH 5%
L2	1-408-409-00	s	INDUCTOR 10UH 5%
L3	1-408-409-00	s	INDUCTOR 10UH 5%
L4	1-408-409-00	s	INDUCTOR 10UH 5%
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-421-370-00	s	COIL, CHOKE
L8	1-421-370-00	s	COIL, CHOKE
L9	1-421-370-00	s	COIL, CHOKE
L10	1-421-370-00	s	COIL, CHOKE
L11	1-421-370-00	s	COIL, CHOKE
L12	1-408-409-00	s	INDUCTOR 10UH 5%
L13	1-408-409-00	s	INDUCTOR 10UH 5%
L14	1-408-409-00	s	INDUCTOR 10UH 5%
L15	1-408-409-00	s	INDUCTOR 10UH 5%
L17	1-408-409-00	s	INDUCTOR 10UH 5%
L701	1-410-956-11	s	INDUCTOR,VAR
L800	1-408-425-00	s	INDUCTOR, 220UH 5%
LPF1	1-231-621-00	s	FILTER, LOW-PASS
LV1	1-409-403-11	s	COIL, TUNING
LV2	1-410-286-11	s	INDUCTOR, VAR 1UH
LV7	1-410-285-11	s	INDUCTOR, VAR 0.68UH
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q4	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q5	8-729-900-61	s	TRANSISTOR DTA114ES
Q6	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q7	8-729-900-61	s	TRANSISTOR DTA114ES
Q8	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q9	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q10	8-729-190-12	s	TRANSISTOR 2SC2901
Q11	8-729-900-61	s	TRANSISTOR DTA114ES
Q12	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q13	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q14	8-729-900-61	s	TRANSISTOR DTA114ES
Q15	8-729-190-12	s	TRANSISTOR 2SC2901
Q16	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q17	8-729-900-61	s	TRANSISTOR DTA114ES

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
Q19	8-729-190-12	s	TRANSISTOR 2SC2901
Q20	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q21	8-729-900-61	s	TRANSISTOR DTA114ES
Q22	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q23	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q24	8-729-900-61	s	TRANSISTOR DTA114ES
Q25	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q30	8-729-611-53	s	TRANSISTOR 2SA1115-E
Q77	8-729-900-61	s	TRANSISTOR DTA114ES
Q78	8-729-105-71	s	TRANSISTOR 2SK523-L1
Q800	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q801	8-729-900-61	s	TRANSISTOR DTA114ES
R1	1-215-397-00	s	RES, METAL 100 1% 1/6W
R2	1-215-397-00	s	RES, METAL 100 1% 1/6W
R20	1-215-406-00	s	RES, METAL 240 1% 1/6W
R21	1-215-408-00	s	RES, METAL 300 1% 1/6W
R23	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R31	1-215-416-00	s	RES, METAL 620 1% 1/6W
R32	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R33	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R34	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R40	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R41	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R42	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R43	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R44	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R57	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R62	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R88	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R89	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R97	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R100	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R102	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R105	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R106	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R114	1-247-838-00	s	RES, CARBON 2K 5% 1/6W
R117	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R119	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R129	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R130	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R131	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R135	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R141	1-247-849-00	s	RES, CARBON 5.6K 5% 1/4W
R146	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R148	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R152	1-249-431-11	s	RES, CARBON 15K 5% 1/4W
R163	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R164	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R165	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R169	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R170	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R171	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R172	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R176	1-215-404-00	s	RES, METAL 200 1% 1/6W
R195	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R196	1-215-465-00	s	RES, METAL 68K 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R213	1-215-408-00	s	RES, METAL 300 1% 1/6W
R226	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R228	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R239	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R300	1-247-895-00	s	RES, CARBON 470K 5% 1/6W
R302	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R303	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R304	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R306	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R307	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R308	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R309	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R310	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R311	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R315	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R316	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R801	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R802	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R803	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R804	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R805	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R806	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R809	1-215-408-00	s	RES, METAL 300 1% 1/6W
R810	1-215-408-00	s	RES, METAL 300 1% 1/6W
R813	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R814	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R815	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R816	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R821	1-215-426-00	s	RES, METAL 1.6K 1% 1/6W
R822	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R823	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R824	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R825	1-215-405-00	s	RES, METAL 220 1% 1/6W
R826	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
RB1	1-231-503-00	s	RESISTOR BLOCK 560x4
RB2	1-231-403-00	s	RESISTOR BLOCK 560x8
RV1	1-237-254-11	s	RES, ADJ, METAL 50
RV2	1-230-840-11	s	RES, ADJ, METAL 1K
RV3	1-237-260-11	s	RES, ADJ, METAL 5K
RV4	1-230-842-11	s	RES, ADJ, METAL 5K
RV5	1-237-260-11	s	RES, ADJ, METAL 5K
RV6	1-230-842-11	s	RES, ADJ, METAL 5K
RV7	1-230-840-11	s	RES, ADJ, METAL 1K
RV8	1-230-841-11	s	RES, ADJ, METAL 2K
RV9	1-230-740-21	s	RES, VAR, CARBON 5K(B)
RV11	1-230-846-11	s	RES, ADJ, METAL 100K
RV12	1-230-842-11	s	RES, ADJ, METAL 5K
RV14	1-230-840-11	s	RES, ADJ, METAL 1K
RV15	1-230-843-11	s	RES, ADJ, METAL 10K
RV41	1-237-259-11	s	RES, ADJ, METAL 2K
RV42	1-230-844-11	s	RES, ADJ, METAL 20K
RV800	1-237-260-11	s	RES, ADJ, METAL 5K
RV802	1-230-838-11	s	RES, ADJ, METAL 200
RV810	1-237-514-21	s	RES, ADJ, CERMET 500

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

CN-186 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-131-11	o	PC BOARD, CN-186
CN401	1-560-300-00	o	RECEP, IL 3P MALE
CN402	1-560-300-00	o	RECEP, IL 3P MALE
CN403	1-560-300-00	o	RECEP, IL 3P MALE
CP1	1-162-617-11	s	CAP, CERAMIC 0.022uF 50V

DD-7 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6023-037-A	o	COMPLETE PCB, DD-7
2pcs	3-703-037-00	s	INSULATOR, TO-220
4pcs	7-682-648-09	s	SCREW +PS 3X8
4pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-682-949-01	s	SCREW +PSW 3X10
C1	1-109-676-00	s	CAP, MICA 130PF 1% 500V
C2	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C3	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C4	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C5	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C6	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C7	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C8	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C9	1-126-134-11	s	CAP, ELECT 4.7uF 20% 350V
C10	1-130-484-00	s	CAP, MYLAR 0.012uF 5% 50V
C11	1-124-489-11	s	CAP, ELECT 150uF 20% 25V
C12	1-130-492-11	s	CAP, MYLAR 0.056uF 5% 50V
C13	1-130-478-00	s	CAP, MYLAR 0.0039uF 5% 50V
C18	1-124-489-11	s	CAP, ELECT 150uF 20% 25V
CN281	1-560-305-00	o	RECEP, IL 10P MALE
CN282	1-560-304-00	o	RECEP, IL 8P MALE
CP1	1-232-718-11	s	CR BLOCK
CP2	1-232-712-11	s	CR BLOCK
CP3	1-232-716-11	s	CR BLOCK
CP4	1-232-717-11	s	CR BLOCK
CP5	1-232-715-11	s	CR BLOCK
CP6	1-232-714-11	s	CR BLOCK
CP7	1-232-713-11	s	CR BLOCK
D1	8-719-110-00	s	DIODE RD100E
D2	8-719-123-89	s	DIODE RD91EB
D3	8-719-900-95	s	DIODE V09G
D4	8-719-123-89	s	DIODE RD91EB
D5	8-719-110-00	s	DIODE RD100E
D6	8-719-900-95	s	DIODE V09G
D7	8-719-104-07	s	DIODE F114F
D8	8-719-104-07	s	DIODE F114F
D9	8-719-104-07	s	DIODE F114F
D10	8-719-104-07	s	DIODE F114F
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-110-86	s	DIODE RD39ESB
D16	8-719-110-86	s	DIODE RD39ESB
FB1	1-535-178-00	s	FERRITE BEAD
FB2	1-535-178-00	s	FERRITE BEAD
FB3	1-535-178-00	s	FERRITE BEAD
FB4	1-535-178-00	s	FERRITE BEAD
IC1	8-759-937-59	s	IC MB3759
IC2	8-759-909-90	s	IC UA723CN
L1	1-421-421-00	s	COIL, CHOKE 100UH
L2	1-421-421-00	s	COIL, CHOKE 100UH

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DD-7 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
L3	1-408-429-00	s	INDUCTOR 470UH 5%
L4	1-421-401-00	s	COIL, CHOKE
Q1	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q2	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q3	8-729-204-94	s	TRANSISTOR 2SC3559
Q4	8-729-118-43	s	TRANSISTOR 2SA1413-L
Q5	8-729-141-78	s	TRANSISTOR 2SC3632-K
Q6	8-729-118-43	s	TRANSISTOR 2SA1413-L
Q7	8-729-118-43	s	TRANSISTOR 2SA1413-L
Q8	8-729-141-78	s	TRANSISTOR 2SC3632-K
Q9	8-729-204-94	s	TRANSISTOR 2SC3559
Q10	8-729-204-94	s	TRANSISTOR 2SC3559
Q11	8-729-115-64	s	TRANSISTOR 2SA1156
Q12	8-729-141-78	s	TRANSISTOR 2SC3632-K
Q13	8-729-141-78	s	TRANSISTOR 2SC3632-K
Q14	8-729-175-22	s	TRANSISTOR 2SC2752
Q15	8-729-204-94	s	TRANSISTOR 2SC3559
Q16	8-729-116-47	s	TRANSISTOR 2SC3157-L
Q17	8-729-116-47	s	TRANSISTOR 2SC3157-L
Q18	8-729-900-80	s	TRANSISTOR DTC114ES
R1 ⚠	1-215-900-11	s	RES, METAL 22K 5% 2W
R2	1-215-900-11	s	RES, METAL 22K 5% 2W
R8	1-247-695-11	s	RES, CARBON 39 5% 1/4W
R9	1-217-625-00	s	RES, METAL 0.05 10% 2W
R12	1-247-743-11	s	RES, CARBON 220 5% 1/2W
R13	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R15 ⚠	1-247-743-11	s	RES, CARBON 220 5% 1/2W
R18	1-215-882-00	s	RES, METAL 22 5% 2W
R19	1-247-695-11	s	RES, CARBON 39 5% 1/4W
RV1	1-230-838-11	s	RES, ADJ, METAL 200
RV2	1-230-841-11	s	RES, ADJ, METAL 2K
T1	1-448-769-11	s	TRANSFORMER, DC-DC CONV

DE-18 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6026-058-A	o	MOUNTED PCB, DE-18
CN003F	1-509-986-00	o	HOUSING, IL 5P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28

RM1 (Magneto-sensing element)
not replaceable

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

DET-3 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-618-489-11	o	PC BOARD, DET-3
1pc	3-673-694-00	o	HOLDER, DME
1pc	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C2	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
CN1	1-564-016-00	o	RECEP, 6P MALE
D1	8-719-911-19	s	DIODE 1SS119
DME1	8-745-211-00	s	DME DM-211
IC1	8-759-103-93	s	IC UPC393C
R5	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R6	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R7	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R8	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
RV1	1-228-469-00	s	RES, ADJ, CERMET 200
RV2	1-228-469-00	s	RES, ADJ, CERMET 200

DP-63 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-121-12	o	PC BOARD, DP-63
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-905-54	s	DIODE EBG5504S
D8	8-719-905-56	s	DIODE EBR5504S
D9	8-719-905-54	s	DIODE EBG5504S
S1	1-554-039-11	s	SWITCH WITH LED, PUSH
S2	1-554-048-00	s	SWITCH WITH LED, PUSH
S3	1-554-039-11	s	SWITCH WITH LED, PUSH
S4	1-554-048-00	s	SWITCH WITH LED, PUSH
S5	1-554-039-11	s	SWITCH WITH LED, PUSH
S6	1-571-280-11	s	SWITCH WITH LED, PUSH

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

DR-13 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000/3000PS)	A-6049-008-A	o	COMPLETE PCB, DR-13
1pc (for BVH-3100/3100PS)	A-6049-025-A	s	COMPLETE PCB, DR-13
34pcs (for BVH-3000/3000PS) 22pcs (for BVH-3100/3100PS)	1-560-240-00	s	CONTACT
2pc	7-621-259-49	s	SCREW +P 2.6X6
2pc	7-682-147-15	s	SCREW +P 3X6
2pc	7-684-023-04	s	N 3,TYPE 2
4pc	7-688-003-11	s	W 3, MIDDLE
C1	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C2	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C3	1-131-353-00	s	CAP, TANT 10uF 10% 35V
C4 (for BVH-3000/3000PS)	1-131-353-00	s	CAP, TANT 10uF 10% 35V
D1	8-719-900-95	s	DIODE V09G
D2	8-719-109-07	s	DIODE RD39E-B
D3	8-719-109-07	s	DIODE RD39E-B
D4	8-719-900-95	s	DIODE V09G
D5	8-719-912-20	s	DIODE 1SS120
D6	8-719-912-20	s	DIODE 1SS120
D7	8-719-912-20	s	DIODE 1SS120
D8	8-719-912-20	s	DIODE 1SS120
IC1	8-759-377-43	s	IC HA17741GS
IC2	8-741-115-62	s	IC BX-1156B
IC3 (for BVH-3000/3000PS)	8-741-115-62	s	IC BX-1156B
L1	1-408-096-00	s	MICRO INDUCTOR 470UH
L2	1-408-096-00	s	MICRO INDUCTOR 470UH
L3 (for BVH-3000/3000PS)	1-408-096-00	s	MICRO INDUCTOR 470UH
Q1	8-729-105-71	s	TRANSISTOR 2SK523-K2
R1	1-247-838-00	s	RES, CARBON 2K 5% 1/6W
R3	1-215-474-00	s	RES, CARBON 160K 5% 1/6W

DS-19 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6025-102-A	o	COMPLETE PCB, DS-19
C3	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C6	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C10	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C12	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C16	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C17	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C19	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C20	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C21	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C24	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C25	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C26	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C27	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C28	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C29	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C30	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C31	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
CN001	1-560-300-00	o	RECEP, IL 3P MALE
CN002	1-560-301-00	o	RECEP, IL 4P MALE
CN003	1-560-302-00	o	RECEP, IL 5P MALE
CN004	1-560-300-00	o	RECEP, IL 3P MALE
CN005	1-560-301-00	o	RECEP, IL 4P MALE
CN006	1-560-304-00	o	RECEP, IL 8P MALE
CN007	1-560-301-00	o	RECEP, IL 4P MALE
CN008	1-560-300-00	o	RECEP, IL 3P MALE
CN009	1-560-300-00	o	RECEP, IL 3P MALE
CN010	1-560-299-00	o	RECEP, IL 2P MALE
CN011	1-560-300-00	o	RECEP, IL 3P MALE
CN021	1-560-727-00	o	RECEP, 26P MALE
CN022	1-560-303-00	o	RECEP, IL 6P MALE
D1	8-719-200-02	s	DIODE 10E-2
D2	8-719-200-02	s	DIODE 10E-2
D3	8-719-200-02	s	DIODE 10E-2
D4	8-719-200-02	s	DIODE 10E-2
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-200-02	s	DIODE 10E-2
D15	8-719-200-02	s	DIODE 10E-2
D16	8-719-200-02	s	DIODE 10E-2
D17	8-719-200-02	s	DIODE 10E-2
D18	8-719-200-02	s	DIODE 10E-2
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-200-02	s	DIODE 10E-2
IC1	8-759-135-80	s	IC UPC358C
IC2	8-759-916-20	s	IC SN74HC14N
IC3	8-759-133-90	s	IC UPC339C
IC4	8-759-208-39	s	IC MP4001
IC5	8-759-645-16	s	IC M54516P

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DS-19 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
Q1	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q2	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q3	8-729-900-61	s	TRANSISTOR DTA114ES
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q7	8-729-378-84	s	TRANSISTOR 2SD788
Q8	8-729-373-92	s	TRANSISTOR 2SB739
Q9	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q10	8-729-900-80	s	TRANSISTOR DTC114ES
Q11	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q12	8-729-900-61	s	TRANSISTOR DTA114ES
Q13	8-729-900-61	s	TRANSISTOR DTA114ES
Q14	8-729-900-61	s	TRANSISTOR DTA114ES
Q15	8-729-313-42	s	TRANSISTOR 2SD1134
Q16	8-729-900-61	s	TRANSISTOR DTA114ES
Q17	8-729-378-84	s	TRANSISTOR 2SD788-5
R1	⚠ 1-216-382-11	s	RES, METAL 0.27 5% 3W
R2	⚠ 1-247-699-11	s	RES, CARBON 82 5% 1/4W
R8	1-216-359-00	s	RES, METAL 6.8 5% 1W
R25	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R26	1-215-411-00	s	RES, METAL 390 1% 1/6W
R28	1-215-390-00	s	RES, METAL 51 1% 1/6W
R30	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R32	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R33	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R78	1-249-413-11	s	RES, CARBON 470 5% 1/4W
R79	1-249-425-11	s	RES, CARBON 4.7K 5% 1/4W

EN-55 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-122-11	o	PC BOARD, EN-55
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-800-39	s	DIODE TLY211
D23	8-719-800-39	s	DIODE TLY211
D24	8-719-800-39	s	DIODE TLY211
D25	8-719-800-39	s	DIODE TLY211
D26	8-719-800-39	s	DIODE TLY211
D27	8-719-800-39	s	DIODE TLY211
D28	8-719-800-39	s	DIODE TLY211
D29	8-719-800-39	s	DIODE TLY211
D30	8-719-800-39	s	DIODE TLY211
D31	8-719-800-39	s	DIODE TLY211
D32	8-719-800-39	s	DIODE TLY211

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

EX-136 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6001-007-A	s	EX-136 ASSY
1pc	3-472-213-02	o	SPRING, TENSION
4pcs	3-673-676-21	o	RAIL, PC BOARD GUIDE
1pc	7-622-207-05	s	N 2.6, TYPE 2
1pc	7-628-254-40	s	SCREW +PS 2.6X12
21pcs	7-682-947-01	s	SCREW +PSW 3x6
4pcs	7-682-948-01	s	SCREW +PSW 3x8
CNA1	1-563-341-11	s	RECEP, DIN 96P FEMALE
CNA2	1-506-748-11	s	RECEP, DIN 96P MALE
CNB1	1-563-341-11	s	RECEP, DIN 96P FEMALE
CNB2	1-506-748-11	s	RECEP, DIN 96P MALE

HD-06 BOARD (BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-606-679-00	o	PC BOARD, HD-06

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

HD-07 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
2pcs	1-606-680-00	o	PC BOARD, HD-07

HD-08 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
2pcs (for BVH-3000PS(A4)/BVH-3100PS(A4))			
	1-606-681-00	o	PC BOARD, HD-08

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

KC-14 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-136-A	o	COMPLETE PCB, KC-14
1pc	7-682-647-09	s	SCREW +PS 3X6
2pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	7-684-023-04	s	N 3, TYPE 2
BZ101	1-529-025-00	s	BUZZER
C103	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C104	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C105	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C106	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C107	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C108	1-124-918-11	s	CAP, ELECT 47uF 20% 63V
C109	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C110	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C112	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C113	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C114	1-124-773-11	s	CAP, ELECT 27uF 20% 63V
C115	1-124-773-11	s	CAP, ELECT 27uF 20% 63V
C117	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C118	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C119	1-102-114-00	s	CAP, CERAMIC 470PF 10% 50V
C120	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C121	1-124-462-00	s	CAP, ELECT 10uF 20% 16V
C124	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C125	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
CN701	1-563-769-11	s	RECEP, ROUND 8P FEMALE
CN702	1-564-494-11	o	RECEP, 60P MALE
CN703	1-564-493-11	o	RECEP, 40P MALE
CN704	1-564-494-11	o	RECEP, 60P MALE
D101	8-719-907-25	s	DIODE ERA84-009
D102	8-719-110-11	s	DIODE RD9.1ESB
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-907-25	s	DIODE ERA84-009
D106	8-719-911-19	s	DIODE 1SS119
ICA4	8-759-904-94	s	IC TL494CN
ICB3	8-759-904-94	s	IC TL494CN
ICC2	8-759-909-15	s	IC MSL915RS
ICC3	8-759-995-10	s	IC MSL9510RS
ICC4	8-759-909-15	s	IC MSL915RS
ICC5	8-759-940-94	s	IC MSM4094RS
ICC7	8-759-008-57	s	IC MC34051P
ICD2	8-759-909-15	s	IC MSL915RS
ICD3	8-759-995-10	s	IC MSL9510RS
ICD4	8-759-909-15	s	IC MSL915RS
ICD5	8-759-940-94	s	IC MSM4094RS
ICD6	8-759-202-14	s	IC TC74HC08P
ICE2	8-759-909-15	s	IC MSL915RS
ICE3	8-759-940-94	s	IC MSM4094RS
ICE4	8-759-909-15	s	IC MSL915RS
ICE5	8-759-940-94	s	IC MSM4094RS
ICE6	8-759-203-08	s	IC TC74HC221P
ICE7	8-759-916-29	s	IC SN74HC74N
ICF2	8-759-909-15	s	IC MSL915RS
ICF3	8-759-940-94	s	IC MSM4094RS
ICF4	8-759-202-21	s	IC TC74HC32P

(KC-14 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICF5	8-759-202-11	s	IC TC74HC00P
ICF6	8-759-901-38	s	IC SN74LS138N
ICF7	8-759-910-43	s	IC CX23028
ICG2	8-759-909-15	s	IC MSL915RS
ICG3	8-759-940-94	s	IC MSM4094RS
ICG5	8-759-112-54	s	IC UPD78C10G-36
ICG7	8-759-203-40	s	IC TC74HC393P
ICH1	8-759-995-10	s	IC MSL9510RS
ICH2	8-759-909-15	s	IC MSL915RS
ICH3	8-759-940-94	s	IC MSM4094RS
ICH7	8-759-202-74	s	IC TC74HC04P
ICJ1	8-759-909-15	s	IC MSL915RS
ICJ2	8-759-909-15	s	IC MSL915RS
ICJ3	8-759-940-94	s	IC MSM4094RS
ICJ5	8-759-783-37	s	IC, EPROM 27C64-KCU2-2-0
ICJ6	8-759-302-75	s	IC HM6116ALSP-12
ICJ7	8-759-202-15	s	IC TC74HC10P
ICK1	8-759-909-15	s	IC MSL915RS
ICK2	8-759-909-15	s	IC MSL915RS
ICK3	8-759-940-94	s	IC MSM4094RS
ICK4	8-759-203-35	s	IC TC74HC373P
ICK7	8-759-202-21	s	IC TC74HC32P
ICM1	8-759-995-10	s	IC MSL9510RS
ICM2	8-759-909-15	s	IC MSL915RS
ICM3	8-759-995-10	s	IC MSL9510RS
ICM4	8-759-909-15	s	IC MSL915RS
ICM5	8-759-940-94	s	IC MSM4094RS
L101	1-421-370-00	s	COIL, CHOKE
L102	1-409-339-00	s	COIL, CHOKE
L103	1-413-057-00	s	COIL, TROIDAL
L104	1-421-370-00	s	COIL, CHOKE
Q101	8-729-177-43	s	TRANSISTOR 2SD774
Q102	8-729-177-43	s	TRANSISTOR 2SD774
Q103	8-729-907-71	s	TRANSISTOR 2SA1077
Q104	8-729-900-36	s	TRANSISTOR DTC124ES
R112 ⚠	1-215-857-11	s	RES, METAL 10 5% 1W
R117	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R118	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
RB101	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB102	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB103	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB104	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB105	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB106	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB107	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB108	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB109	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB110	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB111	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RB112	1-231-411-00	s	RESISTOR BLOCK 100Kx8
RV101	1-230-840-11	s	RES, ADJ, METAL 1K
S101	1-553-856-00	s	SWITCH, PUSH
S102	1-553-856-00	s	SWITCH, PUSH
T101	1-448-768-12	s	TRANSFORMER, HEATER
X101	1-567-796-11	s	CRYSTAL 14.7456MHz

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

KY-103 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-135-A	o	COMPLETE PCB, KY-103
2pcs	2-252-640-00	s	KNOB, TACT SWITCH
6pcs	3-670-095-00	o	HOLDER, LED
CN1F	1-562-151-11	o	HOUSING, 6P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN702F	1-562-485-11	s	RECEP, 60P MALE
CN703F	1-562-336-00	s	RECEP, 40P MALE
CN704F	1-562-485-11	s	RECEP, 60P MALE
CN705M	1-506-473-11	o	RECEP, 8P MALE
CN706M	1-506-475-11	o	RECEP, 10P MALE
CN707M	1-506-487-11	o	RECEP, 8P MALE
CN708M	1-506-489-11	o	RECEP, 10P MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D6	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-905-55	s	DIODE EAA5504S
D25	8-719-905-55	s	DIODE EAA5504S
D26	8-719-905-55	s	DIODE EAA5504S
D27	8-719-905-55	s	DIODE EAA5504S
D28	8-719-905-55	s	DIODE EAA5504S
D29	8-719-905-55	s	DIODE EAA5504S
D30	8-719-940-83	s	DIODE LT9101N
D31	8-719-940-83	s	DIODE LT9101N
D32	8-719-940-83	s	DIODE LT9101N
D33	8-719-940-84	s	DIODE LT9101D
D34	8-719-940-84	s	DIODE LT9101D
IC1	8-759-645-17	s	IC M54517P
IC2	8-759-645-17	s	IC M54517P
IC3	8-759-645-17	s	IC M54517P
IC4	8-759-645-17	s	IC M54517P
IC5	8-759-645-17	s	IC M54517P
IC6	8-759-645-17	s	IC M54517P
IC7	8-759-916-79	s	IC SN74HC273N
IC8	8-759-916-79	s	IC SN74HC273N
IC9	8-759-916-79	s	IC SN74HC273N

(KY-103 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
IC10	8-759-916-79	s	IC SN74HC273N
IC11	8-759-916-79	s	IC SN74HC273N
IC12	8-759-916-79	s	IC SN74HC273N
IC13	8-759-645-17	s	IC M54517P
ND1	1-519-415-11	s	INDICATOR TUBE, FLUORESCENT
Q1	8-729-238-32	s	TRANSISTOR 2SC2383
S1	1-571-280-11	s	SWITCH WITH LED, PUSH
S2	1-571-280-11	s	SWITCH WITH LED, PUSH
S3	1-571-280-11	s	SWITCH WITH LED, PUSH
S4	1-571-280-11	s	SWITCH WITH LED, PUSH
S5	1-571-280-11	s	SWITCH WITH LED, PUSH
S6	1-571-280-11	s	SWITCH WITH LED, PUSH
S7	1-571-280-11	s	SWITCH WITH LED, PUSH
S8	1-571-280-11	s	SWITCH WITH LED, PUSH
S9	1-571-280-11	s	SWITCH WITH LED, PUSH
S10	1-571-280-11	s	SWITCH WITH LED, PUSH
S11	1-571-280-11	s	SWITCH WITH LED, PUSH
S12	1-571-280-11	s	SWITCH WITH LED, PUSH
S13	1-571-280-11	s	SWITCH WITH LED, PUSH
S14	1-571-280-11	s	SWITCH WITH LED, PUSH
S15	1-571-280-11	s	SWITCH WITH LED, PUSH
S16	1-554-044-12	s	SWITCH WITH LED, PUSH
S17	1-571-280-11	s	SWITCH WITH LED, PUSH
S18	1-552-412-00	s	SWITCH, PUSH
S19	1-552-412-00	s	SWITCH, PUSH
S20	1-554-045-22	s	SWITCH WITH LED, PUSH
S21	1-554-039-21	s	SWITCH WITH LED, PUSH
S22	1-554-040-21	s	SWITCH WITH LED, PUSH
S23	1-554-041-41	s	SWITCH WITH LED, PUSH

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

LP-34 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
D1	8-719-941-24	s	DIODE PY3668S
D2	8-719-941-24	s	DIODE PY3668S
D3	8-719-941-24	s	DIODE PY3668S
D4	8-719-941-24	s	DIODE PY3668S
D5	8-719-941-24	s	DIODE PY3668S
D6	8-719-941-24	s	DIODE PY3668S
D7	8-719-941-24	s	DIODE PY3668S
D8	8-719-941-24	s	DIODE PY3668S
D9	8-719-941-24	s	DIODE PY3668S
D10	8-719-941-24	s	DIODE PY3668S
D11	8-719-941-24	s	DIODE PY3668S
D12	8-719-941-24	s	DIODE PY3668S
D13	8-719-941-24	s	DIODE PY3668S
D14	8-719-941-24	s	DIODE PY3668S
D15	8-719-941-24	s	DIODE PY3668S
D16	8-719-941-24	s	DIODE PY3668S
D17	8-719-941-24	s	DIODE PY3668S
D18	8-719-941-24	s	DIODE PY3668S
D19	8-719-941-24	s	DIODE PY3668S
D20	8-719-941-24	s	DIODE PY3668S
D21	8-719-941-24	s	DIODE PY3668S
D22	8-719-941-24	s	DIODE PY3668S
D23	8-719-941-24	s	DIODE PY3668S
D24	8-719-941-24	s	DIODE PY3668S
D25	8-719-941-24	s	DIODE PY3668S
D26	8-719-941-24	s	DIODE PY3668S
D27	8-719-941-24	s	DIODE PY3668S
D28	8-719-941-24	s	DIODE PY3668S
R1	1-247-707-11	s	RES, CARBON 390 5% 1/4W
R2	1-247-707-11	s	RES, CARBON 390 5% 1/4W

MA-26 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for UC/PS except PS-A4)	A-6030-074-A	o	MA-26 ASSY
1pc (for PS-A4)	A-6030-109-A	o	MA-26 ASSY
1pc (for UC/PS except PS-A4)	A-6013-081-A	o	COMPLETE PCB, MA-26
1pc (for PS-A4)	A-6013-087-A	o	COMPLETE PCB, MA-26
2pcs	3-576-921-00	s	SPRING, COMPRESSION
2pcs	3-714-612-01	o	SPACER, CONNECTOR PANEL
2pcs	3-845-334-11	s	SCREW, ORNAMENTAL
16pcs	7-621-259-45	s	SCREW +B 2.6x6
8pcs	7-621-759-65	s	SCREW +PSW 2.6x8
4pcs	7-622-207-05	s	N 2.6, TYPE 2
1pc	7-623-923-01	s	WASHER 2.6, NYLON
2pcs	7-623-956-41	s	WASHER, 5.0 FIBER
2pcs	7-624-106-04	s	STOP RING 3.0 TYPE-E
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
5pcs	7-682-947-01	s	SCREW +PSW 3x6
2pcs	7-688-004-01	s	W4, SMALL
C1	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C3	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C6	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C8	1-124-599-00	s	CAP, ELECT 220uF 20% 25V
C107	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C207	1-124-007-11	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
CN318	1-563-762-11	o	RECEP, DIN 20P MALE
CN319	1-563-455-11	o	RECEP, DIN 44P MALE
CN601F	1-509-989-00	o	HOUSING, IL 10P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN601M	1-560-305-00	o	RECEP, IL 10P
CN602F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN602M	1-560-300-00	o	RECEP, IL 3P
CN603F	1-509-989-00	o	HOUSING, IL 10P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN603M	1-560-305-00	o	RECEP, IL 10P
CN604F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN604M	1-560-300-00	o	RECEP, IL 3P
CN605F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN605M	1-560-300-00	o	RECEP, IL 3P
CN606F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN606M	1-560-300-00	o	RECEP, IL 3P
CN611 (for UC/PS) CN612 (for UC/PS) CN613 (for UC/PS) CN614 (for PS-A4)	1-563-029-21	s	RECEP, XLR3P FEMALE

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
CN615 (for UC/PS)			
CN616 (for UC/PS)			
CN617 (for UC/PS)			
CN618 (for PS-A4)			
CN619 (for UC/PS)			
CN620 (for UC/PS)			
	1-563-030-21	s	RECEP, XLR3P MALE
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-911-19	s	DIODE 1SS119
D201	8-719-911-19	s	DIODE 1SS119
D202	8-719-911-19	s	DIODE 1SS119
D203	8-719-911-19	s	DIODE 1SS119
D204	8-719-911-19	s	DIODE 1SS119
D205	8-719-911-19	s	DIODE 1SS119
IC1	8-759-708-15	s	IC NJM78L15A
IC2	8-759-708-15	s	IC NJM78L15A
IC101	8-759-745-63	s	IC NJM4560D-X
IC201	8-759-745-63	s	IC NJM4560D-X
L1	1-421-329-00	s	COIL, CHOKE
L2	1-421-329-00	s	COIL, CHOKE
Q101	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q102	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q103	8-729-316-23	s	TRANSISTOR 2SC1162
Q104	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q105	8-729-307-58	s	TRANSISTOR 2SC1775A
Q106	8-729-371-53	s	TRANSISTOR 2SA715
Q107	8-729-307-58	s	TRANSISTOR 2SC1775A
Q108	8-729-307-58	s	TRANSISTOR 2SC1775A
Q109	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q110	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q111	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q112	8-729-316-23	s	TRANSISTOR 2SC1162
Q113	8-729-307-58	s	TRANSISTOR 2SC1775A
Q114	8-729-371-53	s	TRANSISTOR 2SA715
Q115	8-729-307-58	s	TRANSISTOR 2SC1775A
Q116	8-729-307-58	s	TRANSISTOR 2SC1775A
Q117	8-729-900-36	s	TRANSISTOR DTC124ES
Q201	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q202	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q203	8-729-316-23	s	TRANSISTOR 2SC1162
Q204	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q205	8-729-307-58	s	TRANSISTOR 2SC1775A
Q206	8-729-371-53	s	TRANSISTOR 2SA715
Q207	8-729-307-58	s	TRANSISTOR 2SC1775A
Q208	8-729-307-58	s	TRANSISTOR 2SC1775A
Q209	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q210	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q211	8-729-307-28	s	TRANSISTOR 2SA872A-E
Q212	8-729-316-23	s	TRANSISTOR 2SC1162

Ref.No. or Q'ty	Part No.	SP	Description
Q213	8-729-307-58	s	TRANSISTOR 2SC1775A
Q214	8-729-371-53	s	TRANSISTOR 2SA715
Q215	8-729-307-58	s	TRANSISTOR 2SC1775A
Q216	8-729-307-58	s	TRANSISTOR 2SC1775A
Q217	8-729-900-36	s	TRANSISTOR DTC124ES
R106	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R108	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R109	1-215-882-00	s	RES, METAL 22 5% 2W
R115	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R118	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R119	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R120	1-215-882-00	s	RES, METAL 22 5% 2W
R123	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R206	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R208	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R209	1-215-882-00	s	RES, METAL 22 5% 2W
R215	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R218	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R219	1-247-729-11	s	RES, CARBON 15 5% 1/2W
R220	1-215-882-00	s	RES, METAL 22 5% 2W
R223	1-247-737-11	s	RES, CARBON 68 5% 1/2W
RY101	1-515-683-11	s	RELAY
RY201	1-515-683-11	s	RELAY

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

MB-140 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6025-101-A	o	COMPLETE PCB, MB-140
1pc	1-938-377-11	o	HARNESS (VSH) (for BVH-3000PS)
1pc	1-938-410-11	o	HARNESS (VH) (for BVH-3100PS)
48pcs	7-622-207-05	s	N 2.6, TYPE 2
48pcs	7-628-254-20	s	SCREW +PS 2.6X8
2pcs	7-682-947-01	s	SCREW +PSW 3X6
C1	1-126-132-11	s	CAP, ELECT 1200uF 20% 16V
C2	1-126-105-11	s	CAP, ELECT 1000uF 20% 35V
C3	1-126-105-11	s	CAP, ELECT 1000uF 20% 35V
C4	1-124-534-11	s	CAP, ELECT 680uF 20% 16V
C5	1-124-534-11	s	CAP, ELECT 680uF 20% 16V
C6	1-126-131-11	s	CAP, ELECT 1200uF 20% 6.3V
C7	1-126-131-11	s	CAP, ELECT 1200uF 20% 6.3V
CN301	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN302	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN303	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN304	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN305	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN306	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN307	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN308	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN309	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN310	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN311	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN312	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN313	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN314	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN315	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN316	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN317	1-563-337-11	s	RECEP, DIN 96P FEMALE
CN318	1-563-765-11	o	RECEP, DIN 20P FEMALE
CN319	1-563-459-11	s	RECEP, DIN 44P FEMALE
CN320	1-563-765-11	o	RECEP, DIN 20P FEMALE
CN321	1-563-459-11	s	RECEP, DIN 44P FEMALE
CN322	1-563-766-11	o	RECEP, DIN 30P FEMALE
CN323	1-563-766-11	o	RECEP, DIN 30P FEMALE
CN324	1-563-766-11	o	RECEP, DIN 30P FEMALE
CN325	1-563-768-11	o	RECEP, MIC 17P MALE
CN326	1-560-303-00	o	RECEP, IL 6P MALE
CN327	1-560-300-00	o	RECEP, IL 3P MALE
CN328	1-563-767-11	o	RECEP, MIC 13P MALE
CN329	1-563-769-11	s	RECEP, ROUND 8P FEMALE
CN330	1-506-637-11	o	RECEP, PS 16P MALE
CN331	1-560-730-00	o	RECEP, 40P MALE
CN332	1-560-728-00	o	RECEP, 30P MALE
CN333	1-560-729-00	o	RECEP, 34P MALE
CP1	1-162-617-11	s	CERAMIC 0.022MF 50V
CP2	1-162-617-11	s	CERAMIC 0.022MF 50V
IC1	8-759-914-41	s	IC X2212P
RB1	1-231-549-11	s	RESISTOR BLOCK 47Kx4

MC-29 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-129-11	o	PC BOARD, MC-29
PH1	8-719-915-46	s	PHOTOINTERRUPTER GP-1S05
PH2	8-719-915-46	s	PHOTOINTERRUPTER GP-1S05

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

MOTOR BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-536-354-00	o	PIN, POST
1pc	1-602-615-00	o	PC BOARD, MOTOR
C301	1-130-482-00	s	CAP, MYLAR 0.0082uF 5% 50V
C302	1-130-482-00	s	CAP, MYLAR 0.0082uF 5% 50V
CN024M	1-560-301-00	o	RECEP, IL 4P MALE
D301	8-719-110-03	s	DIODE RD7.5ESB2
H301	8-719-800-17	s	DIODE THS102
H302	8-719-800-17	s	DIODE THS102
IC301	8-759-700-58	s	IC NJM4558D-FA
Q301	8-729-141-42	s	TRANSISTOR 2SD414-R
Q302	8-729-154-82	s	TRANSISTOR 2SB548-R
Q303	8-729-141-42	s	TRANSISTOR 2SD414-R
Q304	8-729-154-82	s	TRANSISTOR 2SB548-R
R301	1-214-116-00	s	RES, METAL 220 1% 1/4W
R302	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R303	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R304	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R305	1-214-108-00	s	RES, METAL 100 1% 1/4W
R306	1-214-108-00	s	RES, METAL 100 1% 1/4W
R307	1-214-174-00	s	RES, METAL 56K 1% 1/4W
R308	1-214-180-00	s	RES, METAL 100K 1% 1/4W
R309	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R310	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R311	1-214-132-00	s	RES, METAL 1K 1% 1/4W
R312	1-214-108-00	s	RES, METAL 100 1% 1/4W
R313	1-214-108-00	s	RES, METAL 100 1% 1/4W
R314	1-214-174-00	s	RES, METAL 56K 1% 1/4W
R315	1-214-180-00	s	RES, METAL 100K 1% 1/4W
R316	1-214-124-00	s	RES, METAL 470 1% 1/4W
RT301	1-224-929-00	s	RES, ADJ, METAL 5K
RT302	1-224-927-00	s	RES, ADJ, METAL 1K

MS-21 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6026-062-A	o	MOUNTED PCB, MS-21
C1	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C2	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
CN821	1-506-637-11	o	RECEP, PS 16P MALE
D1	8-719-938-08	s	DIODE SLP455B-50
D2	8-719-940-08	s	DIODE SLP255B-50
D3	8-719-940-08	s	DIODE SLP255B-50
D4	8-719-940-08	s	DIODE SLP255B-50
D5	8-719-940-08	s	DIODE SLP255B-50
D6	8-719-940-08	s	DIODE SLP255B-50
D7	8-719-938-08	s	DIODE SLP455B-50
D8	8-719-938-08	s	DIODE SLP455B-50
D9	8-719-940-08	s	DIODE SLP255B-50
D10	8-719-940-08	s	DIODE SLP255B-50
D11	8-719-940-08	s	DIODE SLP255B-50
D12	8-719-940-08	s	DIODE SLP255B-50
D13	8-719-940-08	s	DIODE SLP255B-50
D14	8-719-938-08	s	DIODE SLP455B-50
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
IC1	8-759-645-16	s	IC M54516P
IC2	8-759-901-38	s	IC SN74LS138N
IC3	8-759-708-05	s	IC NJM78L05A
IC4	8-759-204-13	s	IC TD62304P
Q1	8-729-245-82	s	TRANSISTOR 2SC2458-Y
R2	1-247-749-11	s	RES, CARBON 560 5% 1/2W
R3	1-247-751-11	s	RES, CARBON 820 5% 1/2W
R4	1-247-751-11	s	RES, CARBON 820 5% 1/2W
RB1	1-231-533-00	s	RESISTOR BLOCK 10KX4
S1	1-554-048-00	s	SWITCH WITH LED, PUSH
S2	1-554-048-00	s	SWITCH WITH LED, PUSH
S3	1-554-048-00	s	SWITCH WITH LED, PUSH
S4	1-554-048-00	s	SWITCH WITH LED, PUSH

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

PA-56 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6030-080-A	o	PA-56 ASSY
2pcs	3-576-921-00	s	SPRING, COMPRESSION
2pcs	3-714-612-01	o	SPACER, CONNECTOR PANEL
2pcs	3-845-334-11	s	SCREW, ORNAMENTAL
4pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-623-956-41	s	WASHER, 5.0 FIBER
2pcs	7-624-106-04	s	STOP RING 3.0 TYPE-E
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3x8
2pcs	7-688-004-01	s	WASHER 4 SMALL
CN322	1-563-763-11	o	RECEP, DIN 30P MALE
CN323	1-563-763-11	o	RECEP, DIN 30P MALE
CN651	1-563-781-21	s	RECEP, D-SUB 50P FEMALE
CN652	1-563-773-21	s	RECEP, D-SUB 37P FEMALE
CN653	1-566-319-21	s	RECEP, D-SUB 1
CP1	1-233-089-11	s	CR BLOCK
CP2	1-233-089-11	s	CR BLOCK
CP3	1-233-089-11	s	CR BLOCK
CP4	1-233-089-11	s	CR BLOCK
CP5	1-233-089-11	s	CR BLOCK
CP6	1-233-089-11	s	CR BLOCK
CP7	1-233-089-11	s	CR BLOCK
CP8	1-233-089-11	s	CR BLOCK
CP9	1-233-089-11	s	CR BLOCK
CP10	1-233-089-11	s	CR BLOCK
CP11	1-233-089-11	s	CR BLOCK
CP12	1-233-089-11	s	CR BLOCK
CP13	1-233-089-11	s	CR BLOCK
CP14	1-233-089-11	s	CR BLOCK
CP15	1-233-089-11	s	CR BLOCK
CP16	1-233-089-11	s	CR BLOCK
CP17	1-233-089-11	s	CR BLOCK
CP18	1-233-089-11	s	CR BLOCK
CP19	1-233-089-11	s	CR BLOCK
CP20	1-233-089-11	s	CR BLOCK
CP21	1-233-089-11	s	CR BLOCK
CP22	1-233-089-11	s	CR BLOCK
CP23	1-233-089-11	s	CR BLOCK
CP24	1-233-089-11	s	CR BLOCK
CP25	1-233-089-11	s	CR BLOCK
CP101	1-162-617-11	s	CERAMIC 0.022MF 50V
CP103	1-162-617-11	s	CERAMIC 0.022MF 50V
CP104	1-162-617-11	s	CERAMIC 0.022MF 50V
CP105	1-162-617-11	s	CERAMIC 0.022MF 50V
CP106	1-162-617-11	s	CERAMIC 0.022MF 50V
CP107	1-162-617-11	s	CERAMIC 0.022MF 50V
CP108	1-162-617-11	s	CERAMIC 0.022MF 50V
CP109	1-162-617-11	s	CERAMIC 0.022MF 50V
CP110	1-162-617-11	s	CERAMIC 0.022MF 50V
CP111	1-162-617-11	s	CERAMIC 0.022MF 50V
CP112	1-162-617-11	s	CERAMIC 0.022MF 50V
CP113	1-162-617-11	s	CERAMIC 0.022MF 50V
ICA2	8-759-938-68	s	IC CXD1095Q
ICB2	8-759-938-68	s	IC CXD1095Q
ICC2	8-759-901-39	s	IC SN74LS139N
ICD2	8-759-645-16	s	IC M54516P
ICD3	8-759-645-16	s	IC M54516P
ICE2	8-759-938-68	s	IC CXD1095Q
ICF1	8-759-645-16	s	IC M54516P
ICF2	8-759-645-16	s	IC M54516P
ICF3	8-759-645-16	s	IC M54516P
L1	1-421-370-00	s	COIL, CHOKE
RB1	1-231-410-00	s	RESISTOR BLOCK 10Kx8
RB2	1-231-410-00	s	RESISTOR BLOCK 10Kx8
S1	1-516-923-21	s	SWITCH, DIP 4CKT
THP1	1-202-854-00	s	THERMISTOR, POSITIVE 10-OHM
THP2	1-202-854-00	s	THERMISTOR, POSITIVE 10-OHM

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

PS-143 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-560-298-00	o	CONTACT, FEMALE AWG22-28
3pcs	1-621-118-11	o	PC BOARD, PS-143
D1 (for TAPE SENSOR)	8-719-123-69	s	LED SE310 INFRARED
Q1 (for TAPE SENSOR)	8-729-116-45	s	PHOTOTRANSISTOR PH110
PH1 (for FRONT COVER SENSOR)	8-719-915-46	s	PHOTOINTERRUPTER GP-1S05

RD-7 BOARD, BVH-3000PS/3100PS

Board No.
1-621-748-11,12

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6015-106-A	o	COMPLETE PCB, RD-7
4pcs	2-282-313-00	s	KNOB, VR
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-621-737-08	s	SET-SCT,HEX. 2.6X3,FLAT POINT
6pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-628-254-20	s	SCREW +PS 2.6X8
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-533-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
BT1	1-528-218-11	s	BATTERY, LITHIUM CR2032WT13H
C1	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C2	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C3	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C4	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C5	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C6	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C7	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C8	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C9	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C10	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C11	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C12	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C13	1-124-225-00	s	CAP, ELECT 100uF 20% 6.3V
C14	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C15	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C16	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C17	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C18	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C21	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C22	1-130-488-00	s	CAP, MYLAR 0.027uF 5% 50V
C23	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C24	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C25	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C27	1-102-129-00	s	CAP, CERAMIC 0.01uF 10% 50V
C28	1-124-245-00	s	CAP, ELECT 4.7uF 20% 35V
C30	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C32	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C33	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C34	1-124-465-00	s	CAP, ELECT 0.47uF 20% 50V
C35	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C36	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C37	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C38	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C39	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C40	1-124-229-00	s	CAP, ELECT 33uF 20% 10V
C41	1-102-121-00	s	CAP, CERAMIC 0.0022uF 10% 50V
C42	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C43	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C44	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C45	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C46	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C47	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C48	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C49	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C50	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C51	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C52	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C53	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C54	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C56	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C57	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C58	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C59	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C61	1-131-342-00	s	CAP, TANT 0.15uF 10% 35V
C62	1-131-342-00	s	CAP, TANT 0.15uF 10% 35V
C63	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C64	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C65	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C66	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C67	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C68	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C70	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C71	1-124-631-11	s	CAP, ELECT, NONPOLAR 47uF 20% 16V
C72	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C73	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C74	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C77	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C78	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C80	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C81	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C82	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C83	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C85	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C86	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C87	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C89	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C90	1-130-493-00	s	CAP, MYLAR 0.068uF 5% 50V
C92	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C93	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C95	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C96	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C97	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C98	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C99	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C100	1-130-489-00	s	CAP, MYLAR 0.033uF 5% 50V
C101	1-136-156-00	s	CAP, MYLAR 0.018uF 5% 50V
C102	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C103	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C104	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C105	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C106	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C107	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C108	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C109	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C111	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C112	1-124-631-11	s	CAP, ELECT, NONPOLAR 47uF 20% 16V
C113	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C114	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C116	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C119	1-102-109-00	s	CAP, CERAMIC 180PF 10% 50V
C120	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C121	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C123	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C124	1-109-807-00	s	CAP, MICA 100PF 1% 100V
C125	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C126	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C128	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C130	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C131	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C132	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C133	1-109-546-00	s	CAP, MICA 300PF 5% 100V
C134	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C136	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C138	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C141	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C144	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C145	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C147	1-130-472-00	s	CAP, MYLAR 0.0012uF 5% 50V
C149	1-102-129-00	s	CAP, CERAMIC 0.01uF 10% 50V
C150	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C152	1-130-488-00	s	CAP, MYLAR 0.027uF 5% 50V
C153	1-109-637-00	s	CAP, MICA 0.001uF 2% 500V
C156	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C157	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C159	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C195	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C216	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C421	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C501	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C502	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C503	1-130-494-11	s	CAP, MYLAR 0.082uF 5% 50V
C505	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
CF1	1-527-497-00	s	FILTER, CERAMIC 4.55MHZ
CN311	1-506-748-11	s	RECEP, DIN 96P MALE
CN312	1-506-748-11	s	RECEP, DIN 96P MALE
CN313	1-563-764-11	o	RECEP, DIN 30P FEMALE
CP1	1-233-106-11	s	CR BLOCK
D1	8-719-400-35	s	DIODE LN35BP
D2	8-719-400-35	s	DIODE LN35BP
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-918-88	s	DIODE 1SS198
D6	8-719-918-88	s	DIODE 1SS198
D7	8-719-918-88	s	DIODE 1SS198
D8	8-719-918-88	s	DIODE 1SS198
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-918-88	s	DIODE 1SS198
D16	8-719-918-88	s	DIODE 1SS198
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-911-19	s	DIODE 1SS119
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-911-19	s	DIODE 1SS119
D27	8-719-109-79	s	DIODE RD4.7ESB
D29	8-719-918-88	s	DIODE 1SS198
D30	8-719-918-88	s	DIODE 1SS198
D31	8-719-918-88	s	DIODE 1SS198
D32	8-719-918-88	s	DIODE 1SS198
DL1	1-415-449-11	s	DELAY LINE 20nS
DL2	1-415-432-11	s	DELAY LINE 40nS
DL3	1-415-430-11	s	DELAY LINE 30nS
FL1	1-235-577-11	s	FILTER, BANDPASS 17.7MHz
IC1	8-759-990-82	s	IC TL082CP
IC2	8-759-990-82	s	IC TL082CP
IC3	8-759-990-82	s	IC TL082CP
IC4	8-759-990-82	s	IC TL082CP
ICA8	8-759-917-47	s	IC 74F20PC
ICA12	8-759-901-63	s	IC SN74LS163AN
ICA14	8-759-901-63	s	IC SN74LS163AN
ICB1	8-759-901-23	s	IC SN74LS123N
ICB2	8-759-974-06	s	IC SN7406N
ICB5	8-759-990-82	s	IC TL082CP
ICB7	8-759-990-82	s	IC TL082CP
ICB9	8-759-904-79	s	IC 74F00PC
ICB10	8-759-903-99	s	IC SN74LS399N
ICB12	8-759-990-82	s	IC TL082CP
ICB14	8-759-990-82	s	IC TL082CP
ICB16	8-759-900-59	s	IC HI1-0201-5
ICB17	8-759-990-82	s	IC TL082CP
ICB19	8-759-902-21	s	IC SN74LS221N
ICB20	8-759-900-74	s	IC SN74LS74AN
ICB21	8-759-040-53	s	IC MC14053BCP
ICC1	8-759-301-24	s	IC HD10124
ICC2	8-759-900-74	s	IC SN74LS74AN
ICC3	8-759-900-00	s	IC SN74LS00N
ICC4	8-759-900-74	s	IC SN74LS74AN
ICC5	8-759-918-23	s	IC NE527N
ICC10	8-759-918-23	s	IC NE527N
ICC11	8-759-900-00	s	IC SN74LS00N
ICC12	8-759-901-23	s	IC SN74LS123N
ICC13	8-759-990-82	s	IC TL082CP
ICC14	8-759-900-00	s	IC SN74LS00N

Ref. No. or Q'ty	Part No.	SP	Description
ICC15	8-759-900-02	s	IC SN74LS02N
ICC17	8-749-938-10	s	IC BX-381
ICC19	8-759-900-00	s	IC SN74LS00N
ICC20	8-759-900-00	s	IC SN74LS00N
ICC21	8-759-900-04	s	IC SN74LS04N
ICD1	8-759-918-23	s	IC NE527N
ICD2	8-759-901-53	s	IC SN74LS153N
ICD3	8-759-900-04	s	IC SN74LS04N
ICD5	8-749-938-10	s	IC BX-381
ICD7	8-759-906-07	s	IC TL607CP
ICD9	8-759-900-04	s	IC SN74LS04N
ICD10	8-759-901-63	s	IC SN74LS163AN
ICD11	8-759-990-82	s	IC TL082CP
ICD12	8-759-906-07	s	IC TL607CP
ICD14	8-759-901-63	s	IC SN74LS163AN
ICD15	8-759-901-23	s	IC SN74LA123N
ICD19	8-759-900-74	s	IC SN74LS74AN
ICD20	8-759-103-19	s	IC UPC319C
ICD21	8-759-900-02	s	IC SN74LS02N
ICE1	8-759-918-23	s	IC NE527N
ICE2	8-759-900-10	s	IC SN74LS10N
ICE4	8-749-938-10	s	IC BX-381
ICE7	8-759-901-63	s	IC SN74LS163AN
ICE8	8-759-900-00	s	IC SN74LS00N
ICE9	8-759-941-23	s	IC SN74123N
ICE10	8-759-900-02	s	IC SN74LS02N
ICE11	8-759-990-82	s	IC TL082CP
ICE13	8-759-974-06	s	IC SN7406N
ICE14	8-759-900-86	s	IC SN74LS86N
ICE15	8-759-917-65	s	IC 74F193PC
ICE16	8-759-901-74	s	IC SN74LS174N
ICE17	8-759-915-93	s	IC 74F163APC
ICE19	8-759-990-82	s	IC TL082CP
ICE21	8-759-990-82	s	IC TL082CP
ICF1	8-752-015-81	s	IC CX20158
ICF3	8-752-015-81	s	IC CX20158
ICF6	8-759-131-11	s	IC UPC311C
ICF7	8-759-902-21	s	IC SN74LS221N
ICF8	8-759-040-53	s	IC MC14053BCP
ICF9	8-759-990-82	s	IC TL082CP
ICF10	8-759-918-23	s	IC NE527N
ICF11	8-759-915-41	s	IC 74F02PC
ICF12	8-757-903-00	s	IC CX-7903
ICF15	8-759-918-33	s	IC CX20160
ICF16	8-759-900-74	s	IC SN74LS74AN
ICF17	8-759-900-04	s	IC SN74LS04N
ICF18	8-759-900-74	s	IC SN74LS74AN
ICF19	8-759-900-04	s	IC SN74LS04N
ICF20	8-759-902-21	s	IC SN74LS221N
ICF21	8-759-900-59	s	IC HI1-0201-5
ICG1	8-752-015-81	s	IC CX20158
ICG3	8-752-015-81	s	IC CX20158
ICG6	8-759-131-11	s	IC UPC311C
ICG7	8-759-902-21	s	IC SN74LS221N
ICG8	8-759-040-53	s	IC MC14053BCP

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
ICG9	8-759-990-82	s	IC TL082CP
ICG10	8-759-918-23	s	IC NE527N
ICG11	8-759-901-12	s	IC SN74LS112AN
ICG12	8-759-901-12	s	IC SN74LS112AN
ICG13	8-757-903-00	s	IC CX-7903
ICG14	8-759-900-04	s	IC SN74LS04N
ICG15	8-759-902-21	s	IC SN74LS221N
ICG16	8-759-901-23	s	IC SN74LS123N
ICG17	8-757-732-00	s	IC CX-773B
ICG19	8-757-732-00	s	IC CX-773B
ICG20	8-759-990-82	s	IC TL082CP
ICG21	8-759-040-53	s	IC MC14053BCP
ICH1	8-759-990-82	s	IC TL082CP
ICH3	8-759-990-82	s	IC TL082CP
ICH4	8-759-040-53	s	IC MC14053BCP
ICH6	8-759-917-49	s	IC 74F112PC
ICH7	8-759-901-64	s	IC SN74LS164N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-900-00	s	IC SN74LS00N
ICH11	8-759-951-07	s	IC SN75107AN
ICH12	8-759-900-10	s	IC SN74LS10N
ICH14	8-759-906-07	s	IC TL607CP
ICH15	8-759-900-04	s	IC SN74LS04N
ICH16	8-759-202-14	s	IC TC74HC08P
ICH17	8-759-900-00	s	IC SN74LS00N
ICH18	8-759-901-63	s	IC SN74LS163AN
ICH20	8-759-900-04	s	IC SN74LS04N
ICH21	8-759-900-00	s	IC SN74LS00N
ICJ1	8-759-900-14	s	IC SN74LS14N
ICJ2	8-759-345-38	s	IC HD14538BP
ICJ3	8-759-345-38	s	IC HD14538BP
ICJ5	8-759-900-14	s	IC SN74LS14N
ICJ6	8-759-902-21	s	IC SN74LS221N
ICJ7	8-759-901-23	s	IC SN74LS123N
ICJ8	8-759-902-21	s	IC SN74LS221N
ICJ11	8-759-938-68	s	IC CXD1095Q
ICJ13	8-759-918-35	s	IC CX20162
ICJ15	8-759-900-08	s	IC SN74LS08N
ICJ16	8-759-202-12	s	IC TC74HC02P
ICJ17	8-759-203-21	s	IC TC74HC273P
ICJ18	8-759-105-77	s	IC UPD71054C
ICJ19	8-759-105-77	s	IC UPD71054C
ICJ21	8-759-105-77	s	IC UPD71054C
ICK2	8-759-202-56	s	IC TC74HC245P
ICK3	8-759-202-26	s	IC TC74HC138P
ICK4	8-759-900-74	s	IC SN74LS74AN
ICK5	8-759-900-74	s	IC SN74LS74AN
ICK6	8-759-901-53	s	IC SN74LS153N
ICK7	8-759-901-53	s	IC SN74LS153N
ICK8	8-759-901-57	s	IC SN74LS157N
ICK9	8-759-202-21	s	IC TC74HC32P
ICK10	8-759-203-60	s	IC TC74HC670P
ICK11	8-759-203-60	s	IC TC74HC670P
ICK12	8-759-900-00	s	IC SN74LS00N
ICK13	8-759-906-01	s	IC TL601CP

Ref. No. or Q'ty	Part No.	SP	Description
ICK14	8-759-900-74	s	IC SN74LS74AN
ICK15	8-759-105-77	s	IC UPD71054C
ICK17	8-759-105-77	s	IC UPD71054C
ICK18	8-759-105-77	s	IC UPD71054C
ICK19	8-759-105-77	s	IC UPD71054C
ICK21	8-759-105-77	s	IC UPD71054C
ICL2	8-759-990-82	s	IC TL082CP
ICL4	8-759-101-83	s	IC UPC649C
ICL5	8-759-990-82	s	IC TL082CP
ICL7	8-759-990-82	s	IC TL082CP
ICL9	8-759-990-82	s	IC TL082CP
ICL12	8-759-939-36	s	IC TL7705ACP
ICL15	8-759-202-95	s	IC TC74HC155P
ICL21	8-759-900-04	s	IC SN74LS04N
ICM1	8-759-906-01	s	IC TL601CP
ICM3	8-759-990-82	s	IC TL082CP
ICM4	8-759-990-82	s	IC TL082CP
ICM5	8-759-990-82	s	IC TL082CP
ICM7	8-759-990-82	s	IC TL082CP
ICM8	8-759-906-07	s	IC TL607CP
ICM10	8-759-990-82	s	IC TL082CP
ICM11	8-759-201-41	s	IC TD62901P
ICM12	8-759-202-11	s	IC TC74HC00P
ICM14	8-759-780-36	s	IC, EPROM 27C64-RDU2-0-0
ICM15	8-759-202-56	s	IC TC74HC245P
ICM16	8-759-203-35	s	IC TC74HC373P
ICM18	8-759-112-54	s	IC UPD78C10G-36
ICM21	8-759-939-61	s	IC DS1210
ICN1	8-759-990-82	s	IC TL082CP
ICN3	8-759-014-96	s	IC MC1496P
ICN5	8-759-990-82	s	IC TL082CP
ICN7	8-759-990-82	s	IC TL082CP
ICN9	8-759-906-01	s	IC TL601CP
ICN11	8-759-103-95	s	IC UPC648C
ICN13	8-759-938-68	s	IC CXD1095Q
ICN15	8-759-204-44	s	IC TC5517AFL
ICN16	8-759-178-08	s	IC UPC78L08
JP1	1-566-385-11	s	PIN, 2P
JP3	1-566-385-11	s	PIN, 2P
JP4	1-566-385-11	s	PIN, 2P
JS1	1-563-859-11	s	PLUG, SHORT
JS3	1-563-859-11	s	PLUG, SHORT
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-408-425-00	s	INDUCTOR 220uH 5%
L8	1-408-417-00	s	INDUCTOR 47UH 5%
L10	1-408-409-00	s	INDUCTOR 10UH 5%
L11	1-408-409-00	s	INDUCTOR 10UH 5%
L12	1-408-421-00	s	INDUCTOR 100UH 5%
L13	1-408-417-00	s	INDUCTOR 47UH 5%
L16	1-408-429-00	s	INDUCTOR 470UH 5%

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS) Board No. 1-621-748-11,12

Ref. No. or Q'ty	Part No.	SP	Description
Q3	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q5	8-729-190-12	s	TRANSISTOR 2SC2901
Q6	8-729-190-12	s	TRANSISTOR 2SC2901
Q7	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q8	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q9	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q10	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q11	8-729-190-12	s	TRANSISTOR 2SC2901
Q12	8-729-190-12	s	TRANSISTOR 2SC2901
Q13	8-729-190-12	s	TRANSISTOR 2SC2901
Q14	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q16	8-729-900-80	s	TRANSISTOR DTC114ES
R14	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R17	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R26	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R27	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R28	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R29	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R31	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R32	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R33	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R35	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R36	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R37	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R38	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R41	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R43	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R44	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R49	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R50	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R51	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R52	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R54	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R55	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R56	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R57	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R58	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R60	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R62	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R63	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R64	1-215-401-11	s	RES, METAL 150 1% 1/6W
R65	1-215-401-11	s	RES, METAL 150 1% 1/6W
R67	1-215-401-11	s	RES, METAL 150 1% 1/6W
R68	1-215-401-11	s	RES, METAL 150 1% 1/6W
R69	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R70	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R71	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R72	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R73	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R74	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R75	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R76	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R77	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R78	1-215-470-00	s	RES, METAL 110K 1% 1/6W

(RD-7 BOARD, BVH-3000PS/3100PS) Board No. 1-621-748-11,12

Ref. No. or Q'ty	Part No.	SP	Description
R79	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R80	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R81	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R82	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R83	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R84	1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R85	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R86	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R87	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R88	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R89	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R90	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R91	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R92	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R93	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R94	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R95	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R96	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R98	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R99	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R100	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R101	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R102	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R103	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R104	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R109	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R110	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R111	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R112	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R113	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R114	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R116	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R117	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R119	1-215-390-00	s	RES, METAL 51 1% 1/6W
R120	1-215-390-00	s	RES, METAL 51 1% 1/6W
R131	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R137	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R139	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R146	1-215-407-00	s	RES, METAL 270 1% 1/6W
R147	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R149	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R151	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R152	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R153	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R156	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R157	1-215-410-00	s	RES, METAL 360 1% 1/6W
R161	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R162	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R163	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R164	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R165	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R166	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R167	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R168	1-215-417-00	s	RES, METAL 680 1% 1/6W
R170	1-215-415-00	s	RES, METAL 560 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
R171	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R174	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R175	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R176	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R180	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R181	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R182	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R183	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R184	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R185	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R186	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R199	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R200	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R201	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R202	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R204	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R205	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R206	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R207	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R208	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R209	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R242	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R243	1-215-407-00	s	RES, METAL 270 1% 1/6W
R244	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R252	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R253	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R261	1-215-417-00	s	RES, METAL 680 1% 1/6W
R262	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R263	1-215-417-00	s	RES, METAL 680 1% 1/6W
R264	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R266	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R267	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R268	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R269	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R270	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R271	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R275	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R277	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R290	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R292	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R297	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R298	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R299	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R300	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R301	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R303	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R304	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R305	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R306	1-215-486-00	s	RES, METAL 510K 1% 1/6W
R310	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R311	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R312	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R314	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R315	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R318	1-215-414-00	s	RES, METAL 510 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R319	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R320	1-215-414-00	s	RES, METAL 510 1% 1/6W
R323	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R324	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R325	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R329	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R330	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R332	1-215-419-00	s	RES, METAL 820 1% 1/6W
R334	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R339	1-215-408-00	s	RES, METAL 300 1% 1/6W
R341	1-215-390-00	s	RES, METAL 51 1% 1/6W
R342	1-215-408-00	s	RES, METAL 300 1% 1/6W
R344	1-215-408-00	s	RES, METAL 300 1% 1/6W
R347	1-215-416-00	s	RES, METAL 620 1% 1/6W
R348	1-215-416-00	s	RES, METAL 620 1% 1/6W
R352	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R353	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R356	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R357	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R363	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R364	1-215-476-00	s	RES, METAL 200K 1% 1/6W
R365	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R366	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R367	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R375	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R391	1-215-418-00	s	RES, METAL 750 1% 1/6W
R501	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R502	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R503	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R504	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R506	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R507	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R508	1-215-434-00	s	RES, METAL 3.6K 1% 1/6W
R509	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R510	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R513	1-215-418-00	s	RES, METAL 750 1% 1/6W
R514	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R516	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R517	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R519	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R520	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R521	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R522	1-215-432-00	s	RES, METAL 3K 1% 1/6W
RB1	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB2	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB4	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB5	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB6	1-231-504-00	s	RESISTOR BLOCK 620x4
RB8	1-231-549-11	s	RESISTOR BLOCK 47Kx4
RB9	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RV3	1-230-844-11	s	RES, ADJ, METAL 20K
RV5	1-230-846-11	s	RES, ADJ, METAL 100K
RV6	1-230-844-11	s	RES, ADJ, METAL 20K
RV7	1-230-841-11	s	RES, ADJ, METAL 2K
RV9	1-230-841-11	s	RES, ADJ, METAL 2K

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)   Board No. 1-621-748-11,12

Ref. No. or Q'ty	Part No.	SP	Description
RV10	1-230-844-11	s	RES, ADJ, METAL 20K
RV11	1-230-843-11	s	RES, ADJ, METAL 10K
RV12	1-230-903-11	s	RES, ADJ, METAL 200K
RV13	1-230-844-11	s	RES, ADJ, METAL 20K
RV14	1-230-843-11	s	RES, ADJ, METAL 10K
RV15	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV16	1-230-842-11	s	RES, ADJ, METAL 5K
RV17	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV18	1-230-845-11	s	RES, ADJ, METAL 50K
RV19	1-230-844-11	s	RES, ADJ, METAL 20K
RV20	1-230-844-11	s	RES, ADJ, METAL 20K
RV21	1-237-262-11	s	RES, ADJ, METAL 20K
RV22	1-237-261-11	s	RES, ADJ, METAL 10K
RV23	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV24	1-230-844-11	s	RES, ADJ, METAL 20K
RV25	1-230-844-11	s	RES, ADJ, METAL 20K
RV26	1-230-840-11	s	RES, ADJ, METAL 1K
RV27	1-230-740-21	s	RES, VAR, CARBON 5K(B)
RV28	1-230-846-11	s	RES, ADJ, METAL 100K
RV29	1-230-844-11	s	RES, ADJ, METAL 20K
RV30	1-230-840-11	s	RES, ADJ, METAL 1K
S1	1-553-856-00	s	SWITCH, PUSH
X1	1-567-797-11	s	RESONATOR, CERAMIC 12.0MHz
X2	1-527-585-00	s	VCO, X'TAL 17.734475MHz
X3	1-567-646-11	s	OSCILLATOR, CRYSTAL
X4	1-527-585-00	s	VCO, X'TAL 17.734475MHz

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

RD-7 BOARD, BVH-3000PS/3100PS

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6015-106-A	o	COMPLETE PCB, RD-7
4pcs	2-282-313-00	s	KNOB, VR
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-621-737-08	s	SET-SCT,HEX. 2.6X3,FLAT POINT
6pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-628-254-20	s	SCREW +PS 2.6X8
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-533-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
BT1	1-528-218-11	s	BATTERY, LITHIUM CR2032WT13H
C1	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C2	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C3	1-162-806-11	s	CAP, CERAMIC 0.1uF 10% 50V
C4	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C5	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C6	1-162-806-11	s	CAP, CERAMIC 0.1uF 50V
C7	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C8	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C9	1-162-806-11	s	CAP, CERAMIC 0.1uF 50V
C10	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C11	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C12	1-162-806-11	s	CAP, CERAMIC 0.1uF 50V
C13	1-124-225-00	s	CAP, ELECT 100uF 20% 6.3V
C14	1-162-806-11	s	CAP, CERAMIC 0.1uF 50V
C15	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C16	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C17	1-162-806-11	s	CAP, CERAMIC 0.1uF 50V
C22	1-130-488-00	s	CAP, MYLAR 0.027uF 5% 50V
C23	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C24	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C25	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C27	1-102-129-00	s	CAP, CERAMIC 0.01uF 10% 50V
C28	1-124-245-00	s	CAP, ELECT 4.7uF 20% 35V
C30	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C32	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C33	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C34	1-124-465-00	s	CAP, ELECT 0.47uF 20% 50V
C35	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C36	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C37	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C38	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C39	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C40	1-124-229-00	s	CAP, ELECT 33uF 20% 10V
C41	1-102-121-00	s	CAP, CERAMIC 0.0022uF 10% 50V
C42	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C43	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C44	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C45	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C46	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C47	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C48	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C49	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C50	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C51	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C52	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C53	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C54	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C56	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C57	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C58	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C59	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C60	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C61	1-131-342-00	s	CAP, TANT 0.15uF 10% 35V
C62	1-131-342-00	s	CAP, TANT 0.15uF 10% 35V
C63	1-124-259-00	s	CAP, ELECT 4.7uF 20% 50V
C64	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C65	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C66	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C67	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C68	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C70	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C71	1-124-631-11	s	CAP, ELECT, NONPOLAR 47uF 20% 16V
C72	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C73	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C74	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C77	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C78	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C79	1-164-122-11	s	CAP, CERAMIC 220PF 5% 50V
C80	1-162-879-11	s	CAP, CERAMIC 100PF 5% 50V
C81	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C82	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C83	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C85	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C86	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C87	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C88	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C89	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C90	1-130-493-00	s	CAP, MYLAR 0.068uF 5% 50V
C92	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C93	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C94	1-162-761-11	s	CAP, CERAMIC 470PF 5% 50V
C95	1-130-487-00	s	CAP, MYLAR 0.022uF 5% 50V
C96	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C97	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C98	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C99	1-130-481-00	s	CAP, MYLAR 0.0068uF 5% 50V
C100	1-130-489-00	s	CAP, MYLAR 0.033uF 5% 50V
C101	1-136-156-00	s	CAP, MYLAR 0.018uF 5% 50V
C102	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C103	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C104	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C105	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C106	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C107	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C108	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C109	1-131-349-00	s	CAP, TANT 2.2uF 10% 35V
C110	1-164-122-11	s	CAP, CERAMIC 200PF 5% 50V
C111	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C112	1-124-631-11	s	CAP, ELECT, NONPOLAR 47uF 20% 16V

Ref. No. or Q'ty	Part No.	SP	Description
C113	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C114	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C116	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C119	1-102-109-00	s	CAP, CERAMIC 180PF 10% 50V
C120	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C121	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C122	1-164-122-11	s	CAP, CERAMIC 200PF 5% 50V
C123	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C124	1-162-879-11	s	CAP, CERAMIC 100PF 5% 50V
C125	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C126	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C128	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C129	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C130	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C131	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C132	1-124-234-00	s	CAP, ELECT 22uF 20% 16V
C133	1-164-124-11	s	CAP, CERAMIC 300PF 5% 50V
C134	1-124-270-11	s	CAP, ELECT, NONPOLAR 0.47uF 20% 50V
C135	1-162-886-11	s	CAP, CERAMIC 390PF 5% 50V
C136	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C138	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C141	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C143	1-164-122-11	s	CAP, CERAMIC 200PF 5% 50V
C144	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C145	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C146	1-164-122-11	s	CAP, CERAMIC 200PF 5% 50V
C147	1-130-472-00	s	CAP, MYLAR 0.0012uF 5% 50V
C149	1-102-129-00	s	CAP, CERAMIC 0.01uF 10% 50V
C150	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C152	1-130-488-00	s	CAP, MYLAR 0.027uF 5% 50V
C153	1-162-765-11	s	CAP, CERAMIC 0.001uF 5% 50V
C156	1-131-346-00	s	CAP, TANT 0.68uF 10% 35V
C157	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C159	1-102-110-00	s	CAP, CERAMIC 220PF 10% 50V
C195	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C216	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C421	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C501	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C502	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C505	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C509	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C600	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C601	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C602	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C605	1-161-473-11	s	CAP, CERAMIC 0.01uF 10% 50V
C609	1-162-806-11	s	CAP, CERAMIC 0.1uF 10% 50V
C610	1-161-473-00	s	CAP, CERAMIC 0.1uF 10% 50V
CF1	1-527-497-00	s	FILTER, CERAMIC 4.55MHZ
CN311	1-506-748-11	s	RECEP, DIN 96P MALE
CN312	1-506-748-11	s	RECEP, DIN 96P MALE
CN313	1-563-764-11	o	RECEP, DIN 30P FEMALE
CP1	1-233-106-11	s	CR BLOCK
D1	8-719-400-35	s	DIODE LN35BP
D2	8-719-400-35	s	DIODE LN35BP
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-918-88	s	DIODE 1SS198
D6	8-719-918-88	s	DIODE 1SS198

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
D7	8-719-918-88	s	DIODE 1SS198
D8	8-719-918-88	s	DIODE 1SS198
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-911-19	s	DIODE 1SS119
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-918-88	s	DIODE 1SS198
D16	8-719-918-88	s	DIODE 1SS198
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-911-19	s	DIODE 1SS119
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-911-19	s	DIODE 1SS119
D27	8-719-109-79	s	DIODE RD4.7ESB
D29	8-719-918-88	s	DIODE 1SS198
D30	8-719-918-88	s	DIODE 1SS198
D31	8-719-918-88	s	DIODE 1SS198
D32	8-719-918-88	s	DIODE 1SS198
D60	8-719-911-19	s	DIODE 1SS119
D61	8-719-109-87	s	DIODE RD5.6ESB
DL1	1-415-449-11	s	DELAY LINE 20nS
DL2	1-415-432-11	s	DELAY LINE 40nS
DL3	1-415-430-11	s	DELAY LINE 30nS
FB1	1-535-178-00	s	FERRITE BEAD
FL1	1-235-577-11	s	FILTER, BANDPASS 17.7MHz
IC1	8-759-990-82	s	IC TL082CP
IC2	8-759-990-82	s	IC TL082CP
IC3	8-759-990-82	s	IC TL082CP
IC4	8-759-145-58	s	IC UPC4558C
IC5	8-759-990-82	s	IC TL082CP
IC6	8-759-101-83	s	IC UPC649C
IC7	8-759-990-82	s	IC TL082CP
IC8	8-759-906-07	s	IC TL601CP
ICA1	8-759-974-06	s	IC SN7406N
ICA2	8-759-901-23	s	IC SN74LS123N
ICB3	8-759-990-82	s	IC TL082CP
ICB4	8-759-900-00	s	IC SN74LS00N
ICB6	8-759-990-82	s	IC TL082CP
ICB8	8-759-904-79	s	IC 74F00PC
ICB9	8-759-918-23	s	IC NE527N
ICB10	8-759-903-99	s	IC SN74LS399N
ICB12	8-759-990-82	s	IC TL082CP
ICB14	8-759-990-82	s	IC TL082CP
ICB16	8-759-900-59	s	IC HI1-0201-5
ICB17	8-759-990-82	s	IC TL082CP
ICB19	8-759-902-21	s	IC SN74LS221N
ICB20	8-759-900-74	s	IC SN74LS74AN
ICB21	8-759-040-53	s	IC MC14053BCP
ICC1	8-759-301-24	s	IC HD10124
ICC2	8-759-900-74	s	IC SN74LS74AN
ICC4	8-759-900-74	s	IC SN74LS74AN
ICC5	8-759-918-23	s	IC NE527N
ICC10	8-759-900-04	s	IC SN74LS04N

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICC11	8-759-900-00	s	IC SN74LS00N
ICC12	8-759-901-23	s	IC SN74LS123N
ICC13	8-759-990-82	s	IC TL082CP
ICC14	8-759-900-00	s	IC SN74LS00N
ICC15	8-759-900-02	s	IC SN74LS02N
ICC17	8-749-901-26	s	IC BX-381L
ICC19	8-759-900-00	s	IC SN74LS00N
ICC20	8-759-900-00	s	IC SN74LS00N
ICC21	8-759-900-04	s	IC SN74LS04N
ICD1	8-759-918-23	s	IC NE527N
ICD2	8-759-901-53	s	IC SN74LS153N
ICD3	8-759-900-04	s	IC SN74LS04N
ICD5	8-749-901-26	s	IC BX-381L
ICD7	8-759-906-07	s	IC TL607CP
ICD9	8-759-900-04	s	IC SN74LS04N
ICD10	8-759-901-63	s	IC SN74LS163AN
ICD11	8-759-990-82	s	IC TL082CP
ICD12	8-759-906-07	s	IC TL607CP
ICD14	8-759-901-63	s	IC SN74LS163AN
ICD15	8-759-917-47	s	IC 74F20PC
ICD16	8-759-901-63	s	IC SN74LS163AN
ICD19	8-759-900-74	s	IC SN74LS74AN
ICD20	8-759-103-19	s	IC UPC319C
ICD21	8-759-900-02	s	IC SN74LS02N
ICE1	8-759-918-23	s	IC NE527N
ICE2	8-759-900-10	s	IC SN74LS10N
ICE4	8-749-901-26	s	IC BX-381L
ICE7	8-759-901-63	s	IC SN74LS163AN
ICE8	8-759-900-00	s	IC SN74LS00N
ICE9	8-759-941-23	s	IC SN74123N
ICE10	8-759-900-02	s	IC SN74LS02N
ICE11	8-759-990-82	s	IC TL082CP
ICE13	8-759-974-06	s	IC SN7406N
ICE14	8-759-989-69	s	IC SN74LS86AN
ICE15	8-759-917-65	s	IC 74F193PC
ICE16	8-759-901-74	s	IC SN74LS174N
ICE17	8-759-915-93	s	IC 74F163APC
ICE19	8-759-990-82	s	IC TL082CP
ICE21	8-759-990-82	s	IC TL082CP
ICF1	8-752-015-81	s	IC CX20158
ICF3	8-752-015-81	s	IC CX20158
ICF6	8-759-131-11	s	IC UPC311C
ICF7	8-759-902-21	s	IC SN74LS221N
ICF8	8-759-040-53	s	IC MC14053BCP
ICF9	8-759-990-82	s	IC TL082CP
ICF10	8-759-918-23	s	IC NE527N
ICF11	8-759-915-41	s	IC 74F02PC
ICF12	8-757-903-00	s	IC CX-7903
ICF15	8-759-918-33	s	IC CX20160
ICF16	8-759-900-74	s	IC SN74LS74AN
ICF17	8-759-900-04	s	IC SN74LS04N
ICF18	8-759-900-74	s	IC SN74LS74AN
ICF19	8-759-900-04	s	IC SN74LS04N
ICF20	8-759-902-21	s	IC SN74LS221N
ICF21	8-759-900-59	s	IC HI1-0201-5
ICG1	8-752-015-81	s	IC CX20158
ICG3	8-752-015-81	s	IC CX20158
ICG6	8-759-131-11	s	IC UPC311C
ICG7	8-759-902-21	s	IC SN74LS221N
ICG8	8-759-040-53	s	IC MC14053BCP

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICG9	8-759-990-82	s	IC TL082CP
ICG10	8-759-918-23	s	IC NE527N
ICG11	8-759-901-12	s	IC SN74LS112AN
ICG12	8-759-901-12	s	IC SN74LS112AN
ICG13	8-757-903-00	s	IC CX-7903
ICG14	8-759-900-04	s	IC SN74LS04N
ICG15	8-759-902-21	s	IC SN74LS221N
ICG16	8-759-901-23	s	IC SN74LS123N
ICG17	8-757-732-00	s	IC CX-773B
ICG19	8-757-732-00	s	IC CX-773B
ICG20	8-759-990-82	s	IC TL082CP
ICG21	8-759-040-53	s	IC MC14053BCP
ICH1	8-759-990-82	s	IC TL082CP
ICH3	8-759-990-82	s	IC TL082CP
ICH4	8-759-040-53	s	IC MC14053BCP
ICH6	8-759-917-49	s	IC 74F112PC
ICH7	8-759-901-64	s	IC SN74LS164N
ICH8	8-759-900-04	s	IC SN74LS04N
ICH9	8-759-900-00	s	IC SN74LS00N
ICH11	8-759-951-07	s	IC SN75107AN
ICH12	8-759-900-10	s	IC SN74LS10N
ICH14	8-759-906-07	s	IC TL607CP
ICH15	8-759-900-04	s	IC SN74LS04N
ICH16	8-759-202-14	s	IC TC74HC08P
ICH17	8-759-900-00	s	IC SN74LS00N
ICH18	8-759-901-63	s	IC SN74LS163AN
ICH19	8-759-901-63	s	IC SN74LS163AN
ICH20	8-759-900-04	s	IC SN74LS04N
ICH21	8-759-900-00	s	IC SN74LS00N
ICJ2	8-759-345-38	s	IC HD14538BP
ICJ3	8-759-345-38	s	IC HD14538BP
ICJ5	8-759-900-14	s	IC SN74LS14N
ICJ6	8-759-902-21	s	IC SN74LS221N
ICJ7	8-759-901-23	s	IC SN74LS123N
ICJ8	8-759-902-21	s	IC SN74LS221N
ICJ11	8-759-938-68	s	IC CXD1095Q
ICJ13	8-759-918-35	s	IC CX20162
ICJ15	8-759-900-08	s	IC SN74LS08N
ICJ16	8-759-921-08	s	IC SN74HC02N
ICJ17	8-759-916-79	s	IC SN74HC273N
ICJ18	8-752-806-91	s	IC CXQ71054P
ICJ19	8-752-806-91	s	IC CXQ71054P
ICJ21	8-752-806-91	s	IC CXQ71054P
ICK2	8-759-921-34	s	IC SN74HC245N
ICK3	8-759-202-26	s	IC TC74HC138P
ICK4	8-759-900-74	s	IC SN74LS74AN
ICK5	8-759-900-74	s	IC SN74LS74AN
ICK6	8-759-901-53	s	IC SN74LS153N
ICK7	8-759-901-53	s	IC SN74LS153N
ICK8	8-759-901-57	s	IC SN74LS157N
ICK9	8-759-202-21	s	IC TC74HC32P
ICK10	8-759-203-60	s	IC TC74HC670P
ICK11	8-759-203-60	s	IC TC74HC670P
ICK12	8-759-900-00	s	IC SN74LS00N
ICK14	8-759-900-74	s	IC SN74LS74AN

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
ICK15	8-752-806-91	s	IC CXQ71054P
ICK17	8-752-806-91	s	IC CXQ71054P
ICK18	8-752-806-91	s	IC CXQ71054P
ICK19	8-752-806-91	s	IC CXQ71054P
ICK21	8-752-806-91	s	IC CXQ71054P
ICL2	8-759-906-01	s	IC TL601CP
ICL4	8-759-990-82	s	IC TL082CP
ICL5	8-759-906-01	s	IC TL607CP
ICL6	8-759-906-01	s	IC TL601CP
ICL7	8-759-990-82	s	IC TL082CP
ICL9	8-759-990-82	s	IC TL082CP
ICL12	8-759-939-36	s	IC TL7705ACP
ICL15	8-759-232-62	s	IC TC74HC155AP
ICL21	8-759-900-04	s	IC SN74LS04N
ICM1	8-759-990-84	s	IC TL084CN
ICM2	8-759-990-82	s	IC TL082CP
ICM3	8-759-014-96	s	IC MC1496P
ICM4	8-759-990-82	s	IC TL082CP
ICM6	8-759-990-82	s	IC TL082CP
ICM7	8-759-906-01	s	IC TL601CP
ICM9	8-759-145-57	s	IC UPC4557C
ICM11	8-759-201-41	s	IC TD62901P
ICM12	8-759-202-11	s	IC TC74HC00P
ICM14	8-759-787-19	s	IC 27C64RDU2-2-0
ICM15	8-759-921-34	s	IC SN74HC245N
ICM16	8-759-203-35	s	IC TC74HC373P
ICM18	8-759-112-54	s	IC UPD78C10G-36
ICN1	8-759-906-01	s	IC TL601CP
ICN2	8-759-906-01	s	IC TL601CP
ICN4	8-759-990-82	s	IC TL082CP
ICN6	8-759-990-82	s	IC TL082CP
ICN8	8-759-990-82	s	IC TL082CP
ICN11	8-759-103-95	s	IC UPC648C
ICN13	8-759-938-68	s	IC CXD1095Q
ICN15	8-759-208-93	s	IC TC5517CFL
ICN17	8-759-990-84	s	IC TL084CN
ICN21	8-759-939-61	s	IC DS1210
JP1	1-566-385-11	s	PIN, 2P
JP3	1-566-385-11	s	PIN, 2P
JP4	1-566-385-11	s	PIN, 2P
JS1	1-563-859-11	s	PLUG, SHORT
JS3	1-563-859-11	s	PLUG, SHORT
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-408-409-00	s	INDUCTOR 10UH 5%
L6	1-408-409-00	s	INDUCTOR 10UH 5%
L7	1-408-425-00	s	INDUCTOR 220uH 5%
L8	1-408-417-00	s	INDUCTOR 47UH 5%
L10	1-408-409-00	s	INDUCTOR 10UH 5%
L11	1-408-409-00	s	INDUCTOR 10UH 5%
L12	1-408-421-00	s	INDUCTOR 100UH 5%
L13	1-408-417-00	s	INDUCTOR 47UH 5%
L16	1-408-429-00	s	INDUCTOR 470UH 5%

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
Q3	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q4	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q5	8-729-190-12	s	TRANSISTOR 2SC2901
Q6	8-729-190-12	s	TRANSISTOR 2SC2901
Q7	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q8	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q9	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q10	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q11	8-729-190-12	s	TRANSISTOR 2SC2901
Q12	8-729-190-12	s	TRANSISTOR 2SC2901
Q13	8-729-190-12	s	TRANSISTOR 2SC2901
Q14	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q16	8-729-900-80	s	TRANSISTOR DTC114ES
R14	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R16	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R17	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R20	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R26	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R27	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R28	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R29	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R31	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R32	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R33	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R35	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R36	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R37	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R38	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R43	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R44	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R49	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R50	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R51	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R52	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R54	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R55	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R56	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R57	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R58	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R60	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R62	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R63	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R64	1-215-401-11	s	RES, METAL 150 1% 1/6W
R65	1-215-401-11	s	RES, METAL 150 1% 1/6W
R67	1-215-401-11	s	RES, METAL 150 1% 1/6W
R68	1-215-401-11	s	RES, METAL 150 1% 1/6W
R69	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R70	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R71	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R72	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R73	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R74	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R75	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R76	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R77	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R78	1-215-470-00	s	RES, METAL 110K 1% 1/6W

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
R79	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R80	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R81	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R82	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R83	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R84	1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R85	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R86	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R87	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R88	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R89	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R90	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R91	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R92	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R93	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R94	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R95	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R96	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R98	1-215-455-91	s	RES, METAL 27K 5% 2W
R99	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R100	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R101	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R102	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R103	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R104	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R109	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R110	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R111	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R112	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R113	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R114	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R116	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R117	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R119	1-215-390-00	s	RES, METAL 51 1% 1/6W
R120	1-215-390-00	s	RES, METAL 51 1% 1/6W
R131	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R137	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R139	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R146	1-215-407-00	s	RES, METAL 270 1% 1/6W
R147	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R149	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R151	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R152	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R153	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R156	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R157	1-215-410-00	s	RES, METAL 360 1% 1/6W
R161	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R162	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R163	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R164	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R165	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R166	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R167	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R168	1-215-417-00	s	RES, METAL 680 1% 1/6W
R170	1-215-415-00	s	RES, METAL 560 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)
Board No.
1-621-748-13,14
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
R171	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R174	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R175	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R176	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R180	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R181	1-215-459-00	s	RES, METAL 39K 1% 1/6W
R182	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R183	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R184	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R185	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R186	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R199	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R200	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R201	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R202	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R204	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R205	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R206	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R207	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R208	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R209	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R242	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R243	1-215-407-00	s	RES, METAL 270 1% 1/6W
R244	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R252	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R253	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R261	1-215-417-00	s	RES, METAL 680 1% 1/6W
R262	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R263	1-215-417-00	s	RES, METAL 680 1% 1/6W
R264	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R266	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R267	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R268	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R269	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R270	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R271	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R275	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R277	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R290	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R292	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R297	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R298	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R299	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R300	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R301	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R303	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R304	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R305	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R306	1-215-486-00	s	RES, METAL 510K 1% 1/6W
R310	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R311	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R312	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R314	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R315	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R318	1-215-414-00	s	RES, METAL 510 1% 1/6W

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& Higher

Ref. No. or Q'ty	Part No.	SP	Description
R319	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R320	1-215-414-00	s	RES, METAL 510 1% 1/6W
R323	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R324	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R325	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R327	1-215-483-00	s	RES, METAL 390K 1% 1/6W
R329	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R330	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R332	1-215-419-00	s	RES, METAL 820 1% 1/6W
R334	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R339	1-215-408-00	s	RES, METAL 300 1% 1/6W
R341	1-215-390-00	s	RES, METAL 51 1% 1/6W
R342	1-215-408-00	s	RES, METAL 300 1% 1/6W
R344	1-215-408-00	s	RES, METAL 300 1% 1/6W
R347	1-215-416-00	s	RES, METAL 620 1% 1/6W
R348	1-215-416-00	s	RES, METAL 620 1% 1/6W
R352	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R353	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R355	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R356	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R357	1-215-472-00	s	RES, METAL 130K 1% 1/6W
R363	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R364	1-215-476-00	s	RES, METAL 200K 1% 1/6W
R365	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R366	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R367	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R375	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R391	1-215-418-00	s	RES, METAL 750 1% 1/6W
R501	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R502	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R503	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R504	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R506	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R507	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R509	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R510	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R513	1-215-418-00	s	RES, METAL 750 1% 1/6W
R514	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R516	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R517	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R519	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R520	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R521	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R600	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R601	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R602	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R603	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R604	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R605	1-215-462-00	s	RES, METAL 51K 1% 1/6W
R606	1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R607	1-215-410-00	s	RES, METAL 360 1% 1/6W
R608	1-215-470-00	s	RES, METAL 110K 1% 1/6W
R610	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R611	1-215-449-00	s	RES, METAL 15K 1% 1/6W
RB1	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB2	1-235-005-00	s	RESISTOR BLOCK 47Kx8

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RD-7 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-748-13,14
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Ref. No. or Q'ty	Part No.	SP	Description
RB4	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB5	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RB6	1-231-504-00	s	RESISTOR BLOCK 620x4
RB8	1-231-549-11	s	RESISTOR BLOCK 47Kx4
RB9	1-235-005-00	s	RESISTOR BLOCK 47Kx8
RV3	1-230-844-11	s	RES, ADJ, METAL 20K
RV5	1-230-846-11	s	RES, ADJ, METAL 100K
RV6	1-230-844-11	s	RES, ADJ, METAL 20K
RV7	1-230-841-11	s	RES, ADJ, METAL 2K
RV9	1-230-841-11	s	RES, ADJ, METAL 2K
RV10	1-230-844-11	s	RES, ADJ, METAL 20K
RV11	1-230-843-11	s	RES, ADJ, METAL 10K
RV12	1-230-903-11	s	RES, ADJ, METAL 200K
RV13	1-230-844-11	s	RES, ADJ, METAL 20K
RV14	1-230-843-11	s	RES, ADJ, METAL 10K
RV15	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV16	1-230-842-11	s	RES, ADJ, METAL 5K
RV17	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV18	1-230-845-11	s	RES, ADJ, METAL 50K
RV19	1-230-844-11	s	RES, ADJ, METAL 20K
RV20	1-230-844-11	s	RES, ADJ, METAL 20K
RV21	1-237-262-11	s	RES, ADJ, METAL 20K
RV22	1-237-261-11	s	RES, ADJ, METAL 10K
RV23	1-230-741-21	s	RES, VAR, CARBON 10K(B)
RV24	1-230-844-11	s	RES, ADJ, METAL 20K
RV25	1-230-844-11	s	RES, ADJ, METAL 20K
RV26	1-230-840-11	s	RES, ADJ, METAL 1K
RV27	1-230-740-21	s	RES, VAR, CARBON 5K(B)
RV28	1-230-846-11	s	RES, ADJ, METAL 100K
RV29	1-230-844-11	s	RES, ADJ, METAL 20K
RV30	1-230-843-11	s	RES, ADJ, METAL 10K
S1	1-553-856-00	s	SWITCH, PUSH
X1	1-567-797-11	s	RESONATOR, CERAMIC 12.0MHz
X2	1-527-585-00	s	VCO, X'TAL 17.734475MHz
X3	1-567-646-11	s	OSCILLATOR, CRYSTAL
X4	1-527-585-00	s	VCO, X'TAL 17.734475MHz

RM-43 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6015-100-A	o	COMPLETE PCB, RM-43
4pcs	7-682-647-09	s	SCREW +PS 3X6
12pcs	7-682-652-09	s	SCREW +PS 3X16
2pcs	7-682-903-01	s	SCREW +PWH 3X12
4pcs	7-682-947-01	s	SCREW +PSW 3X6
C1	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C2	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C3	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C4	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C5	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C6	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C7	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C8	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C9	1-123-605-00	s	CAP, ELECT 100uF 20% 100V
C10	1-123-605-00	s	CAP, ELECT 100uF 20% 100V
C11	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C12	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C13	1-106-379-12	s	CAP, MYLAR 0.033uF 5% 200V
C14	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C15	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C16	1-123-929-00	s	CAP, ELECT 1uF 20% 160V
C17	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C18	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C19	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C20	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C21	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C22	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C23	1-106-351-00	s	CAP, MYLAR 0.0022uF 5% 200V
C24	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C25	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C26	1-109-621-00	s	CAP, MICA 220PF 1% 500V
C28	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C33	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C39	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C42	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C46	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C51	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C54	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C57	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C58	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C60	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C63	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C65	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C69	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C74	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C76	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
CN201	⚠ 1-560-178-00	o	RECEP, 6P MALE
CN202	1-560-178-00	o	RECEP, 6P MALE
CN203	⚠ 1-560-178-00	o	RECEP, 6P MALE
CN204	1-560-724-00	o	RECEP, 10P MALE
CN205	1-560-724-00	o	RECEP, 10P MALE
CN206	1-560-303-00	o	RECEP, IL 6P MALE
CN207	1-560-303-00	o	RECEP, IL 6P MALE
CN208	1-560-728-00	o	RECEP, 30P MALE
D1	8-719-912-52	s	DIODE ESAC25-02C

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RM-43 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
D2	8-719-912-52	s	DIODE ESAC25-02C
D3	8-719-912-52	s	DIODE ESAC25-02C
D4	8-719-912-52	s	DIODE ESAC25-02C
D5	8-719-912-52	s	DIODE ESAC25-02C
D6	8-719-912-52	s	DIODE ESAC25-02C
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-936-56	s	DIODE DAN209S
D11	8-719-936-56	s	DIODE DAN209S
D12	8-719-936-56	s	DIODE DAN209S
D13	8-719-936-56	s	DIODE DAN209S
D14	8-719-936-56	s	DIODE DAN209S
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-933-28	s	DIODE DAP209S
D19	8-719-933-28	s	DIODE DAP209S
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-109-83	s	DIODE RD5.1ESB
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-109-83	s	DIODE RD5.1ESB
D27	8-719-933-28	s	DIODE DAP209S
D28	8-719-933-28	s	DIODE DAP209S
D29	8-719-110-15	s	DIODE RD10ESB
IC1	8-759-145-58	s	IC UPC4558C
IC2	8-759-145-58	s	IC UPC4558C
IC3	8-759-103-93	s	IC UPC393C
IC4	8-759-103-93	s	IC UPC393C
IC5	8-759-145-58	s	IC UPC4558C
IC6	8-759-145-58	s	IC UPC4558C
IC7	8-759-145-58	s	IC UPC4558C
IC8	8-759-145-58	s	IC UPC4558C
IC9	8-759-145-58	s	IC UPC4558C
IC10	8-759-145-58	s	IC UPC4558C
IC11	8-759-103-93	s	IC UPC393C
IC12	8-759-145-58	s	IC UPC4558C
IC13	8-759-103-93	s	IC UPC393C
IC14	8-759-145-58	s	IC UPC4558C
IC15	8-759-103-93	s	IC UPC393C
IC16	8-759-040-70	s	IC MC14070BCP
IC17	8-759-205-76	s	IC TC504013BP
IC18	8-759-345-38	s	IC HD14538BP
IC19	8-759-240-71	s	IC TC4071BP
IC20	8-759-040-70	s	IC MC14070BCP
IC21	8-759-135-80	s	IC UPC358C
IC22	8-759-103-93	s	IC UPC393C
IC23	8-759-145-58	s	IC UPC4558C
IC24	8-759-135-80	s	IC UPC358C
IC25	9-989-799-01	s	IC MP4504
IC26	9-989-799-01	s	IC MP4504
L1	1-421-370-00	s	COIL, CHOKE

(RM-43 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
Q1	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q2	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q3	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q4	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q5	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q6	8-729-303-73	s	TRANSISTOR 2SC3857-O
Q7	8-729-201-32	s	TRANSISTOR 2SA1013
Q8	8-729-238-32	s	TRANSISTOR 2SC2383
Q9	8-729-201-32	s	TRANSISTOR 2SA1013
Q10	8-729-238-32	s	TRANSISTOR 2SC2383
Q11	8-729-900-89	s	TRANSISTOR DTC144ES
Q12	8-729-900-89	s	TRANSISTOR DTC144ES
Q15	8-729-238-32	s	TRANSISTOR 2SC2383
Q16	8-729-238-32	s	TRANSISTOR 2SC2383
Q17	8-729-238-32	s	TRANSISTOR 2SC2383
Q18	8-729-238-32	s	TRANSISTOR 2SC2383
Q19	8-729-238-32	s	TRANSISTOR 2SC2383
Q20	8-729-238-32	s	TRANSISTOR 2SC2383
Q21	8-729-900-63	s	TRANSISTOR DTA124ES
Q22	8-729-873-43	s	TRANSISTOR 2SD734
Q23	8-729-900-63	s	TRANSISTOR DTA124ES
Q24	8-729-873-43	s	TRANSISTOR 2SD734
Q25	8-729-900-63	s	TRANSISTOR DTA124ES
Q26	8-729-873-43	s	TRANSISTOR 2SD734
Q27	8-729-900-63	s	TRANSISTOR DTA124ES
Q28	8-729-873-43	s	TRANSISTOR 2SD734
Q29	8-729-873-43	s	TRANSISTOR 2SD734
Q30	8-729-900-63	s	TRANSISTOR DTA124ES
Q31	8-729-873-43	s	TRANSISTOR 2SD734
Q32	8-729-900-63	s	TRANSISTOR DTA124ES
Q33	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q34	8-729-900-36	s	TRANSISTOR DTC124ES
Q35	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q36	8-729-900-36	s	TRANSISTOR DTC124ES
Q37	8-729-900-36	s	TRANSISTOR DTC124ES
Q38	8-729-900-36	s	TRANSISTOR DTC124ES
Q39	8-729-900-36	s	TRANSISTOR DTC124ES
Q40	8-729-900-36	s	TRANSISTOR DTC124ES
Q41	8-729-900-36	s	TRANSISTOR DTC124ES
Q42	8-729-904-34	s	TRANSISTOR DTA114TS
Q43	8-729-900-36	s	TRANSISTOR DTC124ES
Q44	8-729-900-36	s	TRANSISTOR DTC124ES
Q45	8-729-900-36	s	TRANSISTOR DTC124ES
Q46	8-729-900-89	s	TRANSISTOR DTC144ES
Q47	8-729-904-34	s	TRANSISTOR DTA114TS
Q48	8-729-900-36	s	TRANSISTOR DTC124ES
Q49	8-729-245-82	s	TRANSISTOR 2SC2458-Y
R5	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R6	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R7	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R9	⚠ 1-216-383-11	s	RES, METAL 0.33 5% 3W
R10	1-216-383-11	s	RES, METAL 0.33 5% 3W
R11	1-249-458-11	s	RES, CARBON 8.2 5% 1/4W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RM-43 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty		Part No.	SP	Description
R12		1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R16		1-249-458-11	s	RES, CARBON 8.2 5% 1/4W
R19		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R20		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R21	⚠	1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R22	⚠	1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R23		1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R24		1-249-413-11	s	RES, CARBON 470 5% 1/4W
R25		1-249-413-11	s	RES, CARBON 470 5% 1/4W
R26		1-249-413-11	s	RES, CARBON 470 5% 1/4W
R27	⚠	1-249-413-11	s	RES, CARBON 470 5% 1/4W
R28		1-249-413-11	s	RES, CARBON 470 5% 1/4W
R29		1-249-413-11	s	RES, CARBON 470 5% 1/4W
R30		1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R31		1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R32	⚠	1-247-752-11	s	RES, CARBON 1K 5% 1/2W
R33		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R34		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R39		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R40		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R41		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R42		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R44		1-215-462-00	s	RES, METAL 51K 1% 1/6W
R47		1-215-462-00	s	RES, METAL 51K 1% 1/6W
R48	⚠	1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R50		1-215-462-00	s	RES, METAL 51K 1% 1/6W
R51	⚠	1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R53		1-215-462-00	s	RES, METAL 51K 1% 1/6W
R55		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R56		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R57		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R58		1-215-461-00	s	RES, METAL 47K 1% 1/6W
R67		1-249-485-11	s	RES, CARBON 8.2 5% 1/2W
R70	⚠	1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R74		1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R78	⚠	1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R82		1-247-717-11	s	RES, CARBON 2.2K 5% 1/4W
R86		1-249-485-11	s	RES, CARBON 8.2 5% 1/2W
R98		1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R99		1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R105		1-215-447-00	s	RES, METAL 12K 1% 1/6W
R107		1-215-421-00	s	RES, METAL 1K 1% 1/6W
R110		1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R111		1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R125		1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R126		1-215-421-00	s	RES, METAL 1K 1% 1/6W
R131		1-215-421-00	s	RES, METAL 1K 1% 1/6W
R134		1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R137		1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R143		1-215-445-00	s	RES, METAL 10K 1% 1/6W
R149		1-215-463-00	s	RES, METAL 56K 1% 1/6W
R150		1-215-469-00	s	RES, METAL 100K 1% 1/6W
R151		1-215-463-00	s	RES, METAL 56K 1% 1/6W
R152		1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R153		1-215-445-00	s	RES, METAL 10K 1% 1/6W
R154		1-215-445-00	s	RES, METAL 10K 1% 1/6W
R159		1-215-422-00	s	RES, METAL 1.1K 1% 1/6W
R160		1-215-455-00	s	RES, METAL 27K 1% 1/6W
R163		1-215-421-00	s	RES, METAL 1K 1% 1/6W
R164		1-215-447-00	s	RES, METAL 12K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RM-43 BORD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
R165	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R167	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R168	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R169	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R172	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R176	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R179	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R182	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R183	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R184	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R187	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R188	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R190	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R192	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R193	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R195	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R196	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R197	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R198	1-215-492-00	s	RES, METAL 910K 1% 1/6W
R199	1-215-460-00	s	RES, METAL 43K 1% 1/6W
R200	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R201	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R202	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R203	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R204	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R205	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R208	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R213	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R217	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R219	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R220	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R221	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R223	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R224	1-215-460-00	s	RES, METAL 43K 1% 1/6W
R225	1-215-492-00	s	RES, METAL 910K 1% 1/6W
R226	1-215-440-00	s	RES, METAL 6.2K 1% 1/6W
R227	1-215-468-00	s	RES, METAL 91K 1% 1/6W
R228	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R229	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R230	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R231	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R232	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R235	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R240	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R248	1-215-464-00	s	RES, METAL 62K 1% 1/6W
R249	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R250	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R251	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R252	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R253	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R255	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R256	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R261	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R262	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R263	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R269	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R270	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R271	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R272	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R273	1-215-445-00	s	RES, METAL 10K 1% 1/6W

RP-32 BOARD, BVH-3000PS/3100PS

*: The parts marked with an asterrisk (*) are used for BVH-3000/3000PS but not used for BVH-3100/3100PS.

Ref.No. or Q'ty	Part No.	SP	Description
1pc (for BVH-3000/3000PS)	A-6011-109-A	o	COMPLETE PCB, RP-32
1pc (for BVH-3100/3100PS)	A-6011-112-A	o	COMPLETE PCB, RP-32
C47*	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C50	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C52	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C57	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C59*	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C61*	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C66*	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
CN261	1-560-302-00	o	RECEP, IL 5P MALE
CN262	1-560-301-00	o	RECEP, IL 4P MALE
CN263*	1-560-300-00	o	RECEP, IL 3P MALE
CN265*	1-560-300-00	o	RECEP, IL 3P MALE
CN266*	1-561-365-21	s	RECEP, COAXIAL MALE
CN267	1-560-300-00	o	RECEP, IL 3P MALE
CN268	1-561-365-21	s	RECEP, COAXIAL MALE
CN269	1-560-300-00	o	RECEP, IL 3P MALE
CN270	1-561-365-21	s	RECEP, COAXIAL MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
FB1	1-535-178-00	s	FERRITE BEAD
FB2	1-535-178-00	s	FERRITE BEAD
FB3	1-535-178-00	s	FERRITE BEAD
FB4	1-535-178-00	s	FERRITE BEAD
FB5*	1-535-178-00	s	FERRITE BEAD
FB6*	1-535-178-00	s	FERRITE BEAD
FB7*	1-535-178-00	s	FERRITE BEAD
FB8*	1-535-178-00	s	FERRITE BEAD
FB9	1-535-178-00	s	FERRITE BEAD
FB10	1-535-178-00	s	FERRITE BEAD
IC1	8-743-930-00	s	IC BX-3930
IC2	8-741-115-62	s	IC BX-1156B
IC3*	8-743-930-00	s	IC BX-3930
IC4*	8-741-115-62	s	IC BX-1156B
L1	1-408-421-00	s	INDUCTOR 100UH 5%
L3	1-408-429-00	s	INDUCTOR 470UH 5%
L4*	1-408-421-00	s	INDUCTOR 100UH 5%
L6*	1-408-429-00	s	INDUCTOR 470UH 5%
L7	1-408-421-00	s	INDUCTOR 100UH 5%
L8	1-408-421-00	s	INDUCTOR 100UH 5%
L9*	1-408-421-00	s	INDUCTOR 100UH 5%
L10*	1-408-421-00	s	INDUCTOR 100UH 5%
LV1	1-408-660-00	s	INDUCTOR, VAR 1.8UH
LV2*	1-408-660-00	s	INDUCTOR, VAR 1.8UH
Q1	8-729-105-47	s	TRANSISTOR 2SC2026-L
Q2	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q3	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q4	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q5	8-729-105-47	s	TRANSISTOR 2SC2026-L
Q6	8-729-105-47	s	TRANSISTOR 2SC2026-L
Q7	8-729-125-20	s	TRANSISTOR 2SC1252
Q8	8-729-125-20	s	TRANSISTOR 2SC1252
Q9	8-729-900-61	s	TRANSISTOR DTA114ES
Q10	8-729-900-61	s	TRANSISTOR DTA114ES
Q11	8-729-900-80	s	TRANSISTOR DTC114ES
Q12	8-729-903-02	s	TRANSISTOR DTA143XS
Q13*	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q14*	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q15*	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q16*	8-729-105-47	s	TRANSISTOR 2SC2026-L
Q17*	8-729-105-47	s	TRANSISTOR 2SC2026-L
Q18*	8-729-125-20	s	TRANSISTOR 2SC1252
Q19*	8-729-125-20	s	TRANSISTOR 2SC1252
Q20	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q21	8-729-125-20	s	TRANSISTOR 2SC1252
Q22	8-729-125-20	s	TRANSISTOR 2SC1252
Q23	8-729-177-43	s	TRANSISTOR 2SD774
Q24*	8-729-110-52	s	TRANSISTOR 2SA1005-L
Q25*	8-729-125-20	s	TRANSISTOR 2SC1252
Q26*	8-729-125-20	s	TRANSISTOR 2SC1252
Q27*	8-729-177-43	s	TRANSISTOR 2SD774
Q28	8-729-903-02	s	TRANSISTOR DTA143XS
R2	1-215-390-00	s	RES, METAL 51 1% 1/6W
R7	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R8	1-215-404-00	s	RES, METAL 200 1% 1/6W
R10	1-215-392-00	s	RES, METAL 62 1% 1/6W
R11	1-215-392-00	s	RES, METAL 62 1% 1/6W
R18	1-215-410-00	s	RES, METAL 360 1% 1/6W
R23	1-215-408-00	s	RES, METAL 300 1% 1/6W
R24	1-215-408-00	s	RES, METAL 300 1% 1/6W
R26	1-215-408-00	s	RES, METAL 300 1% 1/6W
R28	1-215-408-00	s	RES, METAL 300 1% 1/6W
R30	1-214-835-00	s	RES, METAL 62 1% 1/2W
R31	1-214-835-00	s	RES, METAL 62 1% 1/2W
R33	1-215-390-00	s	RES, METAL 51 1% 1/6W
R34	1-215-390-00	s	RES, METAL 51 1% 1/6W
R35	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R42*	1-215-404-00	s	RES, METAL 200 1% 1/6W
R43*	1-215-392-00	s	RES, METAL 62 1% 1/6W
R44*	1-215-392-00	s	RES, METAL 62 1% 1/6W
R48*	1-215-410-00	s	RES, METAL 360 1% 1/6W
R53*	1-215-408-00	s	RES, METAL 300 1% 1/6W
R54*	1-215-408-00	s	RES, METAL 300 1% 1/6W
R55*	1-215-408-00	s	RES, METAL 300 1% 1/6W
R58*	1-215-408-00	s	RES, METAL 300 1% 1/6W
R60*	1-214-835-00	s	RES, METAL 62 1% 1/2W
R61*	1-214-835-00	s	RES, METAL 62 1% 1/2W
R62*	1-214-820-00	s	RES, METAL 15 1% 1/2W
R63*	1-215-390-00	s	RES, METAL 51 1% 1/6W
R64*	1-215-390-00	s	RES, METAL 51 1% 1/6W
R65	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R66	1-214-820-00	s	RES, METAL 15 1% 1/2W
R70	1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R74	1-215-406-00	s	RES, METAL 240 1% 1/6W
R75	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R76	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R78	1-215-406-00	s	RES, METAL 240 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(RP-32 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
R85*	1-215-444-00	s	RES, METAL 9.1K 1% 1/6W
R89*	1-215-406-00	s	RES, METAL 240 1% 1/6W
R90*	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R91*	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R92*	1-215-406-00	s	RES, METAL 240 1% 1/6W
R96*	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R100	1-214-084-00	s	RES, METAL 10 1% 1/4W
R101	1-214-084-00	s	RES, METAL 10 1% 1/4W
RV1	1-230-836-11	s	RES, ADJ, METAL 50
RV2*	1-230-836-11	s	RES, ADJ, METAL 50
RV3	1-230-837-11	s	RES, ADJ, METAL 100
RV4*	1-230-837-11	s	RES, ADJ, METAL 100
RY1	1-515-614-11	s	RELAY
RY2*	1-515-614-11	s	RELAY
T1	1-427-519-00	s	TRANSFORMER, OUTPUT
T2*	1-427-519-00	s	TRANSFORMER, OUTPUT
T3	1-427-519-00	s	TRANSFORMER, OUTPUT
T4*	1-427-519-00	s	TRANSFORMER, OUTPUT

SE-49 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6030-081-A	o	SE-49 ASSY
2pcs	3-576-921-00	s	SPRING, COMPRESSION
2pcs	3-714-612-01	o	SPACER, CONNECTOR PANEL
2pcs	3-845-334-11	s	SCREW, ORNAMENTAL
2pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-623-956-41	s	WASHER, 5.0 FIBER
2pcs	7-624-106-04	s	STOP RING 3.0 TYPE-E
2pcs	7-628-254-40	s	SCREW +PS 2.6X12
11pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-688-004-01	s	W4, SMALL
CN324	1-563-763-11	o	RECEP, DIN 30P MALE
CN661	1-563-771-21	s	RECEP, D-SUB 15P FEMALE
CN662	1-563-770-21	s	RECEP, D-SUB 9P FEMALE
CN663	1-563-770-21	s	RECEP, D-SUB 9P FEMALE
CN664	1-563-770-21	s	RECEP, D-SUB 9P FEMALE
IC1	8-759-008-57	s	IC MC34051P
PS1	1-532-637-00	s	LINK, IC 1A
PS2	1-532-605-00	s	LINK, IC 0.4A
PS3	1-532-605-00	s	LINK, IC 0.4A
S1	1-516-923-21	s	SWITCH, DIP 4CKT

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

SL-07 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6026-054-A	o	MOUNTED PCB, SL-07
7pcs	1-560-240-00	s	CONTACT

SP-01 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-4925-185-A	o	SP-01 ASSY
1pc	A-4925-186-A	o	UR-20-C1 ASSY
1pc	A-4925-224-A	o	UR-20-F ASSY
C101	⚠ 1-136-185-00	s	CAP, FILM 0.22uF 20% AC250V
C102	1-136-185-00	s	CAP, FILM 0.22uF 20% AC250V
C103	⚠ 1-136-212-00	s	CAP, FILM 0.1uF 20% AC250V
C104	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C105	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C106	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C107	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C108	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C109	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C110	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C111	1-161-742-00	s	CAP, CERAMIC 2200PF 20% AC400V
C112	1-125-470-11	s	CAP, ELECT 560uF 400V
C113	1-125-470-11	s	CAP, ELECT 560uF 400V
C114	1-130-808-00	s	CAP, FILM 0.22uF 5% 400V
C115	1-130-808-00	s	CAP, FILM 0.22uF 5% 400V
C116	1-125-352-00	s	CAP, ELECT 180uF 400V
C117	1-161-741-00	s	CAP, CERAMIC 1000PF 20% AC400V
C119	1-161-741-00	s	CAP, CERAMIC 1000PF 20% AC400V
C120	1-161-741-00	s	CAP, CERAMIC 1000PF 20% AC400V
C121	1-130-772-00	s	CAP, FILM 0.22uF 5% 63V
C122	1-130-772-00	s	CAP, FILM 0.22uF 5% 63V
C123	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C124	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C125	1-124-490-11	s	CAP, ELECT 470uF 25V
C126	1-124-481-11	s	CAP, ELECT 22uF 25V
C128	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C129	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C201	1-161-915-00	s	CAP, CERAMIC 1000PF 10% 500V
C202	1-161-915-00	s	CAP, CERAMIC 1000PF 10% 500V
C203	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C204	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C205	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C206	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C207	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-01 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
C208	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C209	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C210	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C212	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C213	1-161-925-00	s	CAP, CERAMIC 100PF 10% 500V
C214	1-124-527-11	s	CAP, ELECT 8200uF 6.3V
C215	1-124-527-11	s	CAP, ELECT 8200uF 6.3V
C216	1-124-527-11	s	CAP, ELECT 8200uF 6.3V
C217	1-124-527-11	s	CAP, ELECT 8200uF 6.3V
C218	1-124-527-11	s	CAP, ELECT 8200uF 6.3V
C219	1-124-568-00	s	CAP, ELECT 4700uF 10V
C220	1-124-520-11	s	CAP, ELECT 3300uF 10V
C221	1-124-630-11	s	CAP, ELECT 1500uF 25V
C222	1-124-630-11	s	CAP, ELECT 1500uF 25V
C223	1-136-149-00	s	CAP, MYLAR 4700PF 5% 50V
C224	1-136-169-00	s	CAP, MYLAR 0.22uF 5% 50V
C225	1-136-149-00	s	CAP, MYLAR 4700PF 5% 50V
C226	1-136-149-00	s	CAP, MYLAR 4700PF 5% 50V
C227	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C228	1-136-161-00	s	CAP, MYLAR 0.047uF 5% 50V
C229	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C230	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C232	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C233	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C234	1-130-508-00	s	CAP, MYLAR 2200PF 10% 50V
C235	1-124-490-11	s	CAP, ELECT 470uF 25V
C238	1-161-911-11	s	CAP, CERAMIC 470PF 10% 500V
C239	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C241	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C242	1-124-490-11	s	CAP, ELECT 470uF 25V
C243	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
CN101	1-560-176-00	o	RECEP, 2P MALE
CN102	1-560-176-00	o	RECEP, 2P MALE
CN201M	1-560-301-00	o	RECEP, IL 4P MALE
CN201F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN202	1-560-304-00	o	RECEP, IL 8P MALE
CN203	1-560-305-00	o	RECEP, IL 10P MALE
CN901	1-560-888-00	o	RECEP, 3P MALE
CN902	1-564-908-11	o	RECEP, MIC 13P MALE
D101	8-719-500-27	s	DIODE S15VB60
D102	8-719-104-07	s	DIODE F114F
D103	8-719-104-07	s	DIODE F114F
D104	8-719-902-42	s	DIODE ESAC33-02CV-F1
D105	8-719-110-61	s	DIODE RD24ESB1
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-911-19	s	DIODE 1SS119
D108	8-719-109-72	s	DIODE RD3.9ESB2
D109	8-719-982-04	s	DIODE ERB81-004
D110	8-719-911-19	s	DIODE 1SS119
D111	8-719-982-04	s	DIODE ERB81-004
D112	8-719-911-19	s	DIODE 1SS119
D201	8-719-903-46	s	DIODE ESAD85-009
D202	8-719-903-46	s	DIODE ESAD85-009
D203	8-719-901-90	s	DIODE ESAC33-02N
D204	8-719-301-20	s	DIODE CTG-23S

(SP-01 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
D205	8-719-301-20	s	DIODE CTG-23S
D206	8-719-110-57	s	DIODE RD22ESB2
D207	8-719-110-61	s	DIODE RD24ESB1
D208	8-719-110-17	s	DIODE RD10ESB2
D209	8-719-911-19	s	DIODE 1SS119
D210	8-719-313-21	s	LED, SEL1321G, GREEN
D211	8-719-110-08	s	DIODE RD8.2ESB2
D212	8-719-911-19	s	DIODE 1SS119
D213	8-719-911-19	s	DIODE 1SS119
D214	8-719-911-19	s	DIODE 1SS119
D215	8-719-911-19	s	DIODE 1SS119
D216	8-719-911-19	s	DIODE 1SS119
D217	8-719-313-21	s	LED, SEL1321G, GREEN
D218	8-719-911-19	s	DIODE 1SS119
D219	8-719-911-19	s	DIODE 1SS119
D220	8-719-911-19	s	DIODE 1SS119
D221	8-719-110-78	s	DIODE RD33ESB2
D222	8-719-110-78	s	DIODE RD33ESB2
D223	8-719-200-02	s	DIODE 10E-2
D223	8-719-920-04	s	DIODE ERB12-02
D224	8-719-104-07	s	DIODE F114F
D225	8-719-911-19	s	DIODE 1SS119
D226	8-719-911-19	s	DIODE 1SS119
D227	8-719-911-19	s	DIODE 1SS119
F101	⚠ 1-532-496-00	s	FUSE, THERMAL 10A 109°C
IC101	8-759-170-12	s	IC UPC78M12H
IC102	1-807-814-11	s	IC B-5272
IC201	8-759-135-80	s	IC UPC358C
IC202	8-759-914-44	s	IC TL431CLPB
IC203	8-759-135-80	s	IC UPC358C
IC204	8-759-914-44	s	IC TL431CLPB
IC205	8-759-914-44	s	IC TL431CLPB
IC206	8-759-914-44	s	IC TL431CLPB
IC207	8-759-245-28	s	IC TC4528BP
L101	1-421-507-11	s	COIL, CHOKE
L102	1-421-507-11	s	COIL, CHOKE
L103	⚠ 1-421-534-00	s	TRANSFORMER, LINE FILTER
L104	1-421-468-00	s	TRANSFORMER, LINE FILTER
L105	1-421-557-11	s	COIL, CHOKE
L106	1-421-683-11	s	COIL, CHOKE 5.6uH
L107	1-421-683-11	s	COIL, CHOKE 5.6uH
L201	1-421-533-00	s	COIL, CHOKE
L202	1-421-506-00	s	COIL, CHOKE
L203	1-421-506-00	s	COIL, CHOKE
L204	A-4935-008-A	s	COIL, CHOKE
L205	A-4935-009-A	s	COIL, CHOKE
L206	A-4935-009-A	s	COIL, CHOKE
L207	1-410-470-11	s	INDUCTOR, 10uH 5%
L208	1-410-470-11	s	INDUCTOR, 10uH 5%
PS101	⚠ 1-532-675-21	s	LINK, IC 1.5A
PS102	1-532-605-00	s	LINK, IC 0.4A
PS201	⚠ 1-532-605-00	s	LINK, IC 0.4A
PS202	1-532-675-21	s	LINK, IC 1.5A
PS203	1-532-675-21	s	LINK, IC 1.5A

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

(SP-01 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
Q101	8-729-300-50	s	TRANSISTOR 2SC2307-Y
	Replace Q101 & Q102 at the same time.		
Q102	8-729-300-50	s	TRANSISTOR 2SC2307-Y
	Replace Q101 & Q102 at the same time.		
Q103	8-719-177-33	s	TRANSISTOR 2SD773-4
Q104	8-719-177-33	s	TRANSISTOR 2SD773-4
Q201	8-729-331-53	s	TRANSISTOR 2SC2315
Q202	8-729-201-86	s	TRANSISTOR 2SA1328-Y
Q203	8-719-178-54	s	TRANSISTOR 2SC2785-F
Q204	8-729-331-53	s	TRANSISTOR 2SC2315
Q205	8-729-117-54	s	TRANSISTOR 2SA1175-F
Q206	8-729-331-53	s	TRANSISTOR 2SC2315
Q207	8-729-117-54	s	TRANSISTOR 2SA1175-F
Q208	8-719-178-54	s	TRANSISTOR 2SC2785-F
Q209	8-729-810-62	s	TRANSISTOR 2SD1061-R
Q210	8-729-117-54	s	TRANSISTOR 2SA1175-F
Q211	8-719-178-54	s	TRANSISTOR 2SC2785-F
Q212	8-729-117-54	s	TRANSISTOR 2SA1175-F
Q213	8-719-178-54	s	TRANSISTOR 2SC2785-F
Q214	8-719-209-00	s	TRANSISTOR 2SK422
Q215	8-719-209-00	s	TRANSISTOR 2SK422
Q216	8-729-117-54	s	TRANSISTOR 2SA1175-F
R101	⚠ 1-205-916-11	s	RES, CERAMIC 5.0 5% 20W
R102	1-205-916-11	s	RES, CERAMIC 5.0 5% 20W
R103	1-247-189-00	s	RES, CARBON 5.6 5% 1/2W
R104	1-247-189-00	s	RES, CARBON 5.6 5% 1/2W
R107	⚠ 1-212-881-11	s	RES, FUSIBLE 100 1/4W
R108	1-212-881-11	s	RES, FUSIBLE 100 1/4W
R201	1-205-624-00	s	RES, CERAMIC 100 5% 5W
R203	1-205-657-00	s	RES, CERAMIC 150 5% 5W
R206	1-213-142-00	s	RES, METAL 820 5% 1W
R216	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R217	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R222	1-247-703-11	s	RES, CARBON 180 5% 1/4W
R226	1-247-708-11	s	RES, CARBON 470 5% 1/4W
R228	1-205-731-11	s	RES, CERAMIC 12 5% 5W
R233	1-247-192-00	s	RES, CARBON 10 5% 1/2W
R244	1-535-369-00	s	RES, SHUNT 0.02 2W
R249	1-247-708-11	s	RES, CARBON 470 5% 1/4W
R250	1-249-482-11	s	RES, CARBON 4.7 5% 1/2W
R251	1-205-652-00	s	RES, CERAMIC 68 5% 5W
R252	1-205-652-00	s	RES, CERAMIC 68 5% 5W
R253	1-205-652-00	s	RES, CERAMIC 68 5% 5W
R268	1-215-466-00	s	RES, METAL 75K 1% 1/6W
R270	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R272	1-247-752-11	s	RES, CARBON 1.0K 5% 1/2W
R273	1-205-625-00	s	RES, CERAMIC 220 5% 5W
R275	1-205-731-11	s	RES, CERAMIC 12 5% 5W
R277	1-205-748-00	s	RES, CERAMIC 22 5% 5W
RV201	1-228-650-11	s	RES, VAR, METAL 1K
RV202	1-230-415-11	s	RES, VAR CERMET 1K
RV203	1-230-415-11	s	RES, VAR CERMET 1K
RY101	1-515-493-00	s	RELAY
T101	⚠ A-4935-013-A	s	TRANSFORMER, CONVERTER
T102	⚠ 1-421-819-11	s	TRANSFORMER, CURRENT

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-01 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
T103	⚠ 1-437-187-11	s	TRANSFORMER, DRIVE
T104	1-437-187-11	s	TRANSFORMER, DRIVE
T105	1-448-406-11	s	TRANSFORMER, CONVERTER
T106	A-4935-010-A	s	TRANSFORMER, PULSE
T201	A-4935-011-A	s	TRANSFORMER, CONVERTER
T202	A-4935-012-A	s	TRANSFORMER, PULSE
TS301	1-570-258-51	s	SWITCH, THERMAL 100°C
TS302	1-570-258-61	s	SWITCH, THERMAL 110°C

SP-02 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-4925-187-A	o	SP-02 ASSY
1pc	A-4925-188-A	o	UR-20-C4 ASSY
1pc	A-4925-189-A	o	UR-20-C6 ASSY
C101	1-125-470-11	s	CAP, ELECT 560uF 400V
C102	1-130-808-00	s	CAP, FILM 0.22uF 5% 400V
C103	1-125-470-11	s	CAP, ELECT 560uF 400V
C104	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C105	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C106	1-130-772-00	s	CAP, FILM 0.22uF 5% 63V
C107	1-130-772-00	s	CAP, FILM 0.22uF 5% 63V
C108 ⚠	1-161-741-00	s	CAP, CERAMIC 1000PF 10% 400V
C109	1-161-741-00	s	CAP, CERAMIC 1000PF 10% 400V
C111	1-161-741-00	s	CAP, CERAMIC 1000PF 10% 400V
C112	1-130-808-00	s	CAP, FILM 0.22uF 5% 400V
C201	1-161-911-11	s	CAP, CERAMIC 470PF 10% 500V
C202	1-161-911-11	s	CAP, CERAMIC 470PF 10% 500V
C203	1-124-603-11	s	CAP, ELECT 390uF 100V
C204	1-124-603-11	s	CAP, ELECT 390uF 100V
C205	1-124-603-11	s	CAP, ELECT 390uF 100V
C206	1-124-603-11	s	CAP, ELECT 390uF 100V
C207	1-124-603-11	s	CAP, ELECT 390uF 100V
C209	1-136-157-00	s	CAP, MYLAR 0.022uF 5% 50V
C210	1-124-603-11	s	CAP, ELECT 390uF 100V
C212	1-136-157-00	s	CAP, MYLAR 0.022uF 5% 50V
C213	1-124-603-11	s	CAP, ELECT 390uF 100V
C215	1-136-157-00	s	CAP, MYLAR 0.022uF 5% 50V
C216	1-124-603-11	s	CAP, ELECT 390uF 100V
C218	1-136-157-00	s	CAP, MYLAR 0.022uF 5% 50V
C219	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C220	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C221	1-124-659-00	s	CAP, ELECT, NONPOLAR 33uF 50V
C222	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C223	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C224	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C225	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C226	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C227	1-106-220-00	s	CAP, MYLAR 0.1uF 100V
C228	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C229	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C230	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C232	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C233	1-136-149-00	s	CAP, MYLAR 4700PF 50V
C234	1-136-161-00	s	CAP, MYLAR 0.047uF 5% 50V
C235	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C237	1-136-157-00	s	CAP, MYLAR 3300PF 5% 50V
C238	1-136-157-00	s	CAP, MYLAR 3300PF 5% 50V
C241	1-136-157-00	s	CAP, MYLAR 3300PF 5% 50V
C242	1-136-157-00	s	CAP, MYLAR 3300PF 5% 50V
C245	1-136-145-00	s	CAP, MYLAR 2200PF 50V
C246	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C247	1-130-834-00	s	CAP, FILM 1.0uF 5% 63V
C248	1-136-145-00	s	CAP, MYLAR 2200PF 50V
C249	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C250	1-130-834-00	s	CAP, FILM 1.0uF 5% 63V
C251	1-136-145-00	s	CAP, MYLAR 2200PF 50V

(SP-02 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
C252	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C253	1-130-834-00	s	CAP, FILM 1.0uF 5% 63V
C254	1-136-145-00	s	CAP, MYLAR 2200PF 50V
C255	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C256	1-130-834-00	s	CAP, FILM 1.0uF 5% 63V
C257	1-136-145-00	s	CAP, MYLAR 2200PF 50V
C258	1-136-165-00	s	CAP, MYLAR 0.1uF 5% 50V
C260	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C261	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C262	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
C263	1-136-153-00	s	CAP, MYLAR 0.01uF 5% 50V
CN103	1-560-176-00	o	RECEP, 2P MALE
CN204	1-560-304-00	o	RECEP, IL 8P MALE
CN205M	1-560-301-00	o	RECEP, IL 4P MALE
CN205F	1-509-985-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN209	1-560-300-00	o	RECEP, IL 3P MALE
CN903	1-560-312-00	o	RECEP, IL 6P MALE
CN904	1-560-310-00	o	RECEP, IL 4P MALE
CN905	1-564-906-11	o	RECEP, MIC 5P MALE
D101	8-719-104-07	s	DIODE F114F
D102	8-719-104-07	s	DIODE F114F
D103	8-719-982-04	s	DIODE ERB81-004
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-982-04	s	DIODE ERB81-004
D106	8-719-911-19	s	DIODE 1SS119
D201	8-719-300-52	s	DIODE CTU-38R
D202	8-719-300-53	s	DIODE CTU-38S
D203	8-719-300-29	s	DIODE CTG-31S
D204	8-719-981-01	s	DIODE ERA81-004
D205	8-719-300-29	s	DIODE CTG-31S
D206	8-719-981-01	s	DIODE ERA81-004
D207	8-719-300-29	s	DIODE CTG-31S
D208	8-719-981-01	s	DIODE ERA81-004
D209	8-719-300-29	s	DIODE CTG-31S
D210	8-719-981-01	s	DIODE ERA81-004
D211	8-719-981-01	s	DIODE ERA81-004
D212	8-719-981-01	s	DIODE ERA81-004
D213	8-719-981-01	s	DIODE ERA81-004
D214	8-719-981-01	s	DIODE ERA81-004
D215	8-719-110-78	s	DIODE RD33ESB2
D216	8-719-110-78	s	DIODE RD33ESB2
D217	8-719-109-89	s	DIODE RD5.6ESB2
D218	8-719-911-19	s	DIODE 1SS119
D219	8-719-302-00	s	DIODE RU-2M
D220	8-719-913-44	s	DIODE ERA82-004
D221	8-719-913-44	s	DIODE ERA82-004
D222	8-719-913-44	s	DIODE ERA82-004
D223	8-719-913-44	s	DIODE ERA82-004
D224	8-719-913-44	s	DIODE ERA82-004
D225	8-719-913-44	s	DIODE ERA82-004
D226	8-719-913-44	s	DIODE ERA82-004
D227	8-719-913-44	s	DIODE ERA82-004
D228	8-719-110-13	s	DIODE RD9.1ESB2
D229	8-719-109-89	s	DIODE RD5.6ESB2
D230	8-719-000-06	s	DIODE MC921

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-02 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
D231	8-719-911-19	s	DIODE 1SS119
D232	8-719-911-19	s	DIODE 1SS119
D233	8-719-000-06	s	DIODE MC921
D234	8-719-911-19	s	DIODE 1SS119
D235	8-719-911-19	s	DIODE 1SS119
D236	8-719-000-06	s	DIODE MC921
D238	8-719-110-57	s	DIODE RD22ESB2
D239	8-719-110-57	s	DIODE RD22ESB2
IC201	8-759-135-80	s	IC UPC358C
IC202	8-759-914-44	s	IC TL431CLPB
IC203	8-759-135-80	s	IC UPC358C
IC204	8-759-135-80	s	IC UPC358C
IC205	1-807-818-11	s	IC PS2401-1
IC206	8-759-914-44	s	IC TL431CLPB
IC207	8-759-914-44	s	IC TL431CLPB
IC208	8-759-914-44	s	IC TL431CLPB
IC209	8-759-914-44	s	IC TL431CLPB
L101	1-421-470-21	s	TRANSFORMER, LINE FILTER
L102	1-421-683-11	s	COIL, CHOKE 5.6uH
L103	1-421-683-11	s	COIL, CHOKE 5.6uH
L201	A-4935-014-A	s	COIL, CHOKE
L202	1-421-329-00	s	COIL, CHOKE
L203	1-421-540-00	s	COIL, CHOKE
L204	1-421-329-00	s	COIL, CHOKE
L205	1-421-622-11	s	TRANSFORMER, LINE FILTER
L206	1-421-540-00	s	COIL, CHOKE
L207	1-421-329-00	s	COIL, CHOKE
L208	1-421-622-11	s	TRANSFORMER, LINE FILTER
L209	1-421-540-00	s	COIL, CHOKE
L210	1-421-329-00	s	COIL, CHOKE
L211	1-421-622-11	s	TRANSFORMER, LINE FILTER
L212	1-421-540-00	s	COIL, CHOKE
L213	1-421-329-00	s	COIL, CHOKE
L214	1-421-622-11	s	TRANSFORMER, LINE FILTER
L215	1-410-470-11	s	INDUCTOR, 10uH 5%
Q101	8-729-300-50	s	TRANSISTOR 2SC2307-Y Replace Q101 & Q103 at the same time.
Q102	8-729-177-33	s	TRANSISTOR 2SD773-4
Q103	8-729-300-50	s	TRANSISTOR 2SC2307 Replace Q101 & Q103 at the same time.
Q104	8-729-177-33	s	TRANSISTOR 2SD773-4
Q201	8-729-994-43	s	TRANSISTOR 2SC2944-C
Q202	8-729-177-43	s	TRANSISTOR 2SD774-4
Q203	8-729-994-43	s	TRANSISTOR 2SC2944-C
Q204	8-729-177-43	s	TRANSISTOR 2SD774-4
Q205	8-729-994-43	s	TRANSISTOR 2SC2944-C
Q206	8-729-177-43	s	TRANSISTOR 2SD774-4
Q207	8-729-994-43	s	TRANSISTOR 2SC2944-C
Q208	8-729-177-43	s	TRANSISTOR 2SD774-4
Q209	8-729-201-86	s	TRANSISTOR 2SA1328
Q210	8-729-900-80	s	TRANSISTOR DTC114ES
Q211	8-729-900-80	s	TRANSISTOR DTC114ES
Q212	8-729-900-80	s	TRANSISTOR DTC114ES
Q213	8-729-900-61	s	TRANSISTOR DTA114ES
Q214	8-729-900-61	s	TRANSISTOR DTA114ES

(SP-02 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
R101	1-247-189-00	s	RES, CARBON 5.6 5% 1/2W
R102	⚠ 1-212-881-11	s	RES, FUSIBLE 100 1/4W
R103	1-247-189-00	s	RES, CARBON 5.6 5% 1/2W
R104	⚠ 1-212-881-11	s	RES, FUSIBLE 100 1/4W
R201	1-205-625-00	s	RES, CERAMIC 220 5% 5W
R202	1-205-917-31	s	RES, CERAMIC 1K 5% 20W
R203	1-205-624-00	s	RES, CERAMIC 100 5% 5W
R205	1-214-766-00	s	RES, METAL 36K 1% 1/4W
R206	1-249-447-11	s	RES, CARBON 1.0 5% 1/4W
R207	1-247-700-11	s	RES, CARBON 100 5% 1/4W
R208	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R209	1-214-766-00	s	RES, METAL 36K 1% 1/4W
R210	1-249-447-11	s	RES, CARBON 1.0 5% 1/4W
R211	1-247-700-11	s	RES, CARBON 100 5% 1/4W
R212	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R213	1-249-447-11	s	RES, CARBON 1.0 5% 1/4W
R214	1-247-700-11	s	RES, CARBON 100 5% 1/4W
R215	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R216	1-249-447-11	s	RES, CARBON 1.0 5% 1/4W
R217	1-247-700-11	s	RES, CARBON 100 5% 1/4W
R218	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R219	1-247-190-00	s	RES, CARBON 6.8 1/2W 5%
R224	1-213-143-00	s	RES, METAL 1.0K 5% 1W
R230	1-215-430-00	s	RES, METAL 2.4K 1% 1/6W
R254	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R255	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R256	1-205-623-00	s	RES, CERAMIC 47 5% 5W
R257	1-206-686-00	s	RES, METAL 8.2K 5% 2W
R258	1-206-686-00	s	RES, METAL 8.2K 5% 2W
R259	1-206-676-00	s	RES, METAL 3.3K 5% 2W
R260	1-206-674-00	s	RES, METAL 2.7K 5% 2W
R261	1-215-389-00	s	RES, METAL 47 1% 1/6W
R262	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R263	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R264	⚠ 1-214-721-00	s	RES, METAL 470 1% 1/4W
R265	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R266	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R267	1-215-389-00	s	RES, METAL 47 1% 1/6W
R268	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R269	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R270	⚠ 1-214-721-00	s	RES, METAL 470 1% 1/4W
R271	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R272	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R273	1-215-397-00	s	RES, METAL 100 1% 1/6W
R274	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R275	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R276	⚠ 1-214-722-00	s	RES, METAL 510 1% 1/4W
R277	1-251-445-00	s	RES, METAL 10K 1% 1/6W
R278	1-251-445-00	s	RES, METAL 10K 1% 1/6W
R279	1-215-397-00	s	RES, METAL 100 1% 1/6W
R280	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R281	1-215-413-00	s	RES, METAL 470 1% 1/6W
R282	⚠ 1-214-713-00	s	RES, METAL 220 1% 1/4W
R283	1-251-445-00	s	RES, METAL 10K 1% 1/6W
R284	1-251-445-00	s	RES, METAL 10K 1% 1/6W
R285	1-215-413-00	s	RES, METAL 470 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-02 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
R286	1-215-413-00	s	RES, METAL 470 1% 1/6W
R287	1-215-409-00	s	RES, METAL 330 1% 1/6W
R288	1-215-407-00	s	RES, METAL 270 1% 1/6W
RV201	1-228-650-11	s	RES, VAR, METAL 1K
RV203	1-228-650-11	s	RES, VAR, METAL 1K
RV204	1-228-650-11	s	RES, VAR, METAL 1K
RV205	1-228-650-11	s	RES, VAR, METAL 1K
RV206	1-228-650-11	s	RES, VAR, METAL 1K
RV207	1-230-415-11	s	RES, VAR CERMET 1K
RV208	1-230-415-11	s	RES, VAR CERMET 1K
RV209	1-230-415-11	s	RES, VAR CERMET 1K
RV210	1-230-415-11	s	RES, VAR CERMET 1K
T101	⚠ A-4935-015-A	s	TRANSFORMER, CONVERTER
T102	1-421-819-11	s	TRANSFORMER, CURRENT
T103	1-437-187-11	s	TRANSFORMER, DRIVER
T104	⚠ 1-437-187-11	s	TRANSFORMER, DRIVER
T201	1-437-114-00	s	TRANSFORMER, DRIVER
T202	1-437-114-00	s	TRANSFORMER, DRIVER
T203	1-437-114-00	s	TRANSFORMER, DRIVER
T204	1-437-114-00	s	TRANSFORMER, DRIVER
T205	A-4935-016-A	s	TRANSFORMER, CURRENT
T206	A-4935-016-A	s	TRANSFORMER, CURRENT
T207	A-4935-016-A	s	TRANSFORMER, CURRENT
T208	A-4935-016-A	s	TRANSFORMER, CURRENT
TS201	1-570-258-11	s	SWITCH, THERMAL 90°C
TS202	1-570-258-61	s	SWITCH, THERMAL 110°C

SP-03 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-4925-190-A	o	SP-03 ASSY
1pc	A-4925-191-A	o	UR-20-C2 ASSY
1pc	A-4925-192-A	o	UR-20-C5 ASSY
C101	1-125-470-11	s	CAP, ELECT 560uF 400V
C108	1-125-470-11	s	CAP, ELECT 560uF 400V
C109	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C110	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C114	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C115	1-123-601-00	s	CAP, ELECT 4.7uF 250V
C203	1-124-574-11	s	CAP, ELECT 3900uF 16V
C204	1-124-574-11	s	CAP, ELECT 3900uF 16V
C205	1-124-579-11	s	CAP, ELECT 1000uF 16V
C206	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C210	1-124-440-11	s	CAP, ELECT 3300uF 25V
C211	1-124-574-11	s	CAP, ELECT 3900uF 16V
C212	1-124-525-11	s	CAP, ELECT 1000uF 25V
C213	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C215	1-124-525-11	s	CAP, ELECT 1000uF 25V
C224	1-124-579-11	s	CAP, ELECT 1000uF 16V
C227	1-124-962-11	s	CAP, ELECT 2200uF 25V
C228	1-124-962-11	s	CAP, ELECT 2200uF 25V
C229	1-124-490-11	s	CAP, ELECT 470uF 25V
C232	1-124-962-11	s	CAP, ELECT 2200uF 25V
C233	1-124-962-11	s	CAP, ELECT 2200uF 25V
C234	1-124-490-11	s	CAP, ELECT 470uF 25V
C236	1-136-149-00	s	CAP, MYLAR 4700PF 50V
C237	1-124-574-11	s	CAP, ELECT 3900uF 16V
C239	1-124-574-11	s	CAP, ELECT 3900uF 16V
C245	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C246	1-136-141-00	s	CAP, MYLAR 1000PF 50V
C247	1-124-482-11	s	CAP, ELECT 33uF 35V
CN104	1-560-176-00	o	RECEP, 2P MALE
CN206	1-560-300-00	o	RECEP, IL 3P MALE
CN207	1-560-305-00	o	RECEP, IL 10P MALE
CN208M	1-560-301-00	o	RECEP, IL 4P MALE
CN208F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN906	1-560-311-00	o	RECEP, IL 5P MALE
CN907	1-560-887-00	o	RECEP, MIC 17P MALE
D101	8-719-982-04	s	DIODE ERB81-004
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-982-04	s	DIODE ERB81-004
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-982-04	s	DIODE ERB81-004
D106	8-719-911-19	s	DIODE 1SS119
D107	8-719-982-04	s	DIODE ERB81-004
D108	8-719-911-19	s	DIODE 1SS119
D109	8-719-104-07	s	DIODE F114F
D110	8-719-104-07	s	DIODE F114F
D111	8-719-104-07	s	DIODE F114F
D112	8-719-104-07	s	DIODE F114F
D201	8-719-302-60	s	DIODE FML-32S

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-03 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
D202	8-719-911-19	s	DIODE 1SS119
D203	8-719-911-19	s	DIODE 1SS119
D204	8-719-313-21	s	LED SEL1321G, GREEN
D205	1-807-793-11	s	DIODE FML-22S
D206	8-719-911-19	s	DIODE 1SS119
D207	8-719-911-19	s	DIODE 1SS119
D208	8-719-110-78	s	DIODE RD33ESB2
D209	8-719-110-78	s	DIODE RD33ESB2
D210	8-719-911-19	s	DIODE 1SS119
D211	8-719-911-19	s	DIODE 1SS119
D212	8-719-301-27	s	DIODE CTG-33S
D213	8-719-301-26	s	DIODE CTG-33R
D214	8-719-110-78	s	DIODE RD33ESB2
D215	8-719-110-78	s	DIODE RD33ESB2
D216	8-719-110-67	s	DIODE RD27ESB2
D217	8-719-911-19	s	DIODE 1SS119
D218	8-719-110-57	s	DIODE RD22ESB2
D219	8-719-911-19	s	DIODE 1SS119
D220	8-719-313-21	s	LED SEL1321G, GREEN
D221	8-719-313-21	s	LED SEL1321G, GREEN
D222	8-719-313-21	s	LED SEL1321G, GREEN
D223	8-719-911-19	s	DIODE 1SS119
D224	8-719-911-19	s	DIODE 1SS119
D224	1-807-793-11	s	DIODE FML-22S
D225	8-719-911-19	s	DIODE 1SS119
D226	8-719-911-19	s	DIODE 1SS119
D227	8-719-302-00	s	DIODE RU-2M
D229	8-719-911-19	s	DIODE 1SS119
D230	8-719-911-19	s	DIODE 1SS119
D231	8-719-911-19	s	DIODE 1SS119
D232	8-719-911-19	s	DIODE 1SS119
F201	⚠ 1-532-604-21	s	FUSE, THERMAL 130°C
F202	1-532-604-21	s	FUSE, THERMAL 130°C
IC201	8-759-135-80	s	IC UPC358C
IC202	8-759-914-00	s	IC TL431CLPB
IC203	8-759-135-80	s	IC UPC358C
IC204	8-759-914-00	s	IC TL431CLPB
IC205	8-759-135-80	s	IC UPC358C
IC206	8-749-990-12	s	IC STR-9012
IC207	8-759-914-00	s	IC TL431CLPB
L101	1-421-372-00	s	TRANSFORMER, LINE FILTER
L102	1-421-683-11	s	COIL, CHOKE
L103	1-421-683-11	s	COIL, CHOKE
L104	1-421-683-11	s	COIL, CHOKE
L105	1-421-683-11	s	COIL, CHOKE
L201	1-421-507-11	s	COIL, CHOKE
L202	1-421-459-00	s	COIL, CHOKE
L203	1-408-814-11	s	COIL, CHOKE
L204	1-421-459-00	s	COIL, CHOKE
L205	A-4935-017-A	s	COIL, CHOKE
L206	1-421-459-00	s	COIL, CHOKE
L207	A-4935-017-A	s	COIL, CHOKE
L208	1-421-459-00	s	COIL, CHOKE
L209	1-408-322-00	s	COIL, CHOKE
L210	1-421-622-11	s	TRANSFORMER, LINE FILTER

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SP-03 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
Q101	8-729-300-50	s	TRANSISTOR 2SC2307-Y Replace Q101 & Q102 at the same time.
Q102	8-729-300-50	s	TRANSISTOR 2SC2307-Y Replace Q101 & Q102 at the same time.
Q103	8-729-177-32	s	TRANSISTOR 2SD773-3
Q104	8-729-177-32	s	TRANSISTOR 2SD773-3
Q105	8-729-300-50	s	TRANSISTOR 2SC2307-Y Replace Q105 & Q106 at the same time.
Q106	8-729-300-50	s	TRANSISTOR 2SC2307-Y Replace Q105 & Q106 at the same time.
Q107	8-729-177-32	s	TRANSISTOR 2SD773-3
Q108	8-729-177-32	s	TRANSISTOR 2SD773-3
Q201	1-807-819-11	s	TRANSISTOR 2SD1707-Q
Q202	8-729-102-03	s	TRANSISTOR 2SD1020-H
Q203	8-729-205-02	s	TRANSISTOR 2SA1150-Y
Q204	1-807-820-11	s	TRANSISTOR 2SB1156-Q
Q205	8-729-205-02	s	TRANSISTOR 2SA1150-Y
Q206	8-729-102-03	s	TRANSISTOR 2SD1020-H
Q207	8-729-900-80	s	TRANSISTOR DTC114ES
Q208	8-729-900-80	s	TRANSISTOR DTC114ES
Q209	8-729-900-80	s	TRANSISTOR DTC114ES
Q210	8-729-900-80	s	TRANSISTOR DTC114ES
Q211	8-729-900-61	s	TRANSISTOR DTA114ES
Q212	8-729-900-61	s	TRANSISTOR DTA114ES
Q213	8-729-900-61	s	TRANSISTOR DTA114ES
Q214	8-729-102-03	s	TRANSISTOR 2SD1020-H
Q215	8-729-205-02	s	TRANSISTOR 2SA1150-Y
R103	⚠ 1-212-873-11	s	RES, FUSIBLE 47 1/4W
R105	1-212-873-11	s	RES, FUSIBLE 47 1/4W
R108	1-212-873-11	s	RES, FUSIBLE 47 1/4W
R110	⚠ 1-212-873-11	s	RES, FUSIBLE 47 1/4W
R213	1-215-445-00	s	RES, METAL 10K 1/6W 1%
R214	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R229	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R230	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
T101	⚠ A-4935-019-A	s	TRANSFORMER, CONVERTER
T102	1-421-819-11	s	TRANSFORMER, CURRENT
T103	1-437-187-11	s	TRANSFORMER, DRIVER
T104	1-437-187-11	s	TRANSFORMER, DRIVER
T105	A-4935-018-A	s	TRANSFORMER, CONVERTER
T106	⚠ 1-421-819-11	s	TRANSFORMER, CURRENT
T107	1-437-187-11	s	TRANSFORMER, DRIVER
T108	1-437-187-11	s	TRANSFORMER, DRIVER
TS1	1-570-258-21	s	SWITCH, THERAML 80°C
TS2	1-570-258-11	s	SWITCH, THERMAL 90°C

SR-36 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-621-271-12	o	PC BOARD, SR-36
CN291M	1-560-313-00	o	RECEP, IL 8P MALE

SV-90 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6015-103-A	o	COMPLETE PCB, SV-90
1pc	X-3714-529-1	o	PLATE ASSY, SHIELD
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
6pcs	7-622-207-05	s	N 2.6, TYPE 2
6pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C4	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C5	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C6	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C9	1-109-622-00	s	CAP, MICA 0.0012uF 1% 100V
C11	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C12	1-109-622-00	s	CAP, MICA 0.0012uF 1% 100V
C13	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C14	1-162-777-11	s	CAP, CERAMIC 0.01uF 5% 50V
C16	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C18	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C21	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C22	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C26	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C29	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C33	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C34	1-130-476-00	s	CAP, MYLAR 0.0027uF 5% 50V
C38	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C43	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C45	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C50	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C51	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C52	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C55	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C57	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C58	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C61	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C62	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C63	1-130-475-00	s	CAP, MYLAR 0.0022uF 5% 50V
C64	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C65	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C95	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C96	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C97	1-124-261-00	s	CAP, ELECT 10uF 20% 50V
C101	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C102	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C103	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C104	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C105	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C106	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C107	1-124-248-00	s	CAP, ELECT 22uF 20% 35V
C110	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C111	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C112	1-124-240-00	s	CAP, ELECT 10uF 20% 25V
C113	1-124-240-00	s	CAP, ELECT 10uF 20% 25V
C114	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C115	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
C116	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C119	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C120	1-124-255-00	s	CAP, ELECT 1uF 20% 50V
C123	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C126	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C127	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C150	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C155	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C156	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C159	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C160	1-102-112-00	s	CAP, CERAMIC 330PF 10% 50V
C162	1-107-202-00	s	CAP, MICA 10PF 5% 50V
CN1	1-563-339-11	o	RECEP, DIN 48P FEMALE
CN2	1-560-313-00	o	RECEP, IL 8P MALE
CN315	1-506-748-11	s	RECEP, DIN 96P MALE
CN316	1-506-748-11	s	RECEP, DIN 96P MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D7	8-719-911-19	s	DIODE 1SS119
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-918-88	s	DIODE 1SS198
D10	8-719-918-88	s	DIODE 1SS198
D11	8-719-918-88	s	DIODE 1SS198
D12	8-719-911-19	s	DIODE 1SS119
D13	8-719-911-19	s	DIODE 1SS119
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D16	8-719-911-19	s	DIODE 1SS119
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-911-19	s	DIODE 1SS119
D19	8-719-911-19	s	DIODE 1SS119
D20	8-719-911-19	s	DIODE 1SS119
D21	8-719-911-19	s	DIODE 1SS119
D22	8-719-911-19	s	DIODE 1SS119
D23	8-719-800-60	s	DIODE TLR214
D24	8-719-800-60	s	DIODE TLR214
D25	8-719-800-60	s	DIODE TLR214
D26	8-719-400-35	s	DIODE LN35BP
D27	8-719-400-35	s	DIODE LN35BP
D28	8-719-400-35	s	DIODE LN35BP
D29	8-719-400-35	s	DIODE LN35BP
D30	8-719-918-88	s	DIODE 1SS198
D31	8-719-918-88	s	DIODE 1SS198
D33	8-719-918-88	s	DIODE 1SS198
D34	8-719-911-19	s	DIODE 1SS119
D35	8-719-911-19	s	DIODE 1SS119
D36	8-719-911-19	s	DIODE 1SS119
D37	8-719-911-19	s	DIODE 1SS119
D38	8-719-911-19	s	DIODE 1SS119
D39	8-719-911-19	s	DIODE 1SS119
IC1	8-759-108-05	s	IC UPC78L05A

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
IC2	8-759-937-22	s	IC BA707
ICA1	8-759-145-58	s	IC UPC4558C
ICA4	8-759-103-19	s	IC UPC319C
ICA5	8-759-910-43	s	IC CX23028
ICA11	8-759-135-80	s	IC UPC358C
ICA16	8-759-103-95	s	IC UPC648C
ICB1	8-759-145-58	s	IC UPC4558C
ICB4	8-759-135-80	s	IC UPC358C
ICB5	8-759-202-14	s	IC TC74HC08P
ICB6	8-759-921-08	s	IC SN74HC02N
ICB7	8-759-101-83	s	IC UPC649C
ICB9	8-759-101-83	s	IC UPC649C
ICB15	8-759-112-54	s	IC UPD78C10G-36
ICC1	8-759-745-60	s	IC NJM4560D
ICC4	8-759-103-19	s	IC UPC319C
ICC5	8-759-203-82	s	IC TC74HC4520P
ICC6	8-759-990-82	s	IC TL082CP
ICC7	8-759-208-10	s	IC TC4053BPHB
ICC9	8-759-208-10	s	IC TC4053BPHB
ICC11	8-759-990-82	s	IC TL082CP
ICD1	8-759-745-60	s	IC NJM4560D
ICD4	8-759-145-58	s	IC UPC4558C
ICD7	8-759-990-82	s	IC TL082CP
ICD9	8-759-990-82	s	IC TL082CP
ICD13	8-759-916-50	s	IC SN74HC157N
ICD14	8-759-203-50	s	IC TC74HC574P
ICD15	8-759-203-48	s	IC TC74HC573P
ICD16	8-759-921-34	s	IC SN74HC245N
ICD17	8-759-921-34	s	IC SN74HC245N
ICE1	8-759-990-82	s	IC TL082CP
ICE2	8-759-990-82	s	IC TL082CP
ICE4	8-759-208-06	s	IC TC4051BPHB
ICE5	8-759-990-82	s	IC TL082CP
ICE6	8-759-990-82	s	IC TL082CP
ICE8	8-759-208-06	s	IC TC4051BPHB
ICE9	8-759-135-80	s	IC UPC358C
ICE10	8-759-135-80	s	IC UPC358C
ICE11	8-759-135-80	s	IC UPC358C
ICE13	8-759-202-21	s	IC TC74HC32P
ICE15	8-759-780-37	s	IC, EPROM 27C64-V2U2-0-0
ICE16	8-759-302-75	s	IC HM6116ALSP-12
ICE17	8-759-916-50	s	IC SN74HC157N
ICF1	8-759-990-82	s	IC TL082CP
ICF2	8-759-990-82	s	IC TL082CP
ICF5	8-759-990-82	s	IC TL082CP
ICF6	8-759-990-82	s	IC TL082CP
ICF9	8-759-240-52	s	IC TC4052BP
ICF10	8-759-208-06	s	IC TC4051BPHB
ICF11	8-759-208-06	s	IC TC4051BPHB
ICF13	8-759-202-11	s	IC TC74HC00P
ICF17	8-759-916-50	s	IC SN74HC157N
ICG2	8-759-135-80	s	IC UPC358C
ICG4	8-759-135-80	s	IC UPC358C
ICG6	8-759-202-74	s	IC TC74HC04P
ICG7	8-759-916-65	s	IC SN74HC240N

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICG11	8-759-645-17	s	IC M54517P
ICG13	8-759-937-62	s	IC CF77049N
ICG15	8-759-938-68	s	IC CXD1095Q
ICH5	8-759-203-33	s	IC TC74HC367P
ICH6	8-759-910-43	s	IC CX23028
ICH7	8-759-910-43	s	IC CX23028
ICH8	8-759-203-82	s	IC TC74HC4520P
ICH9	8-759-906-24	s	IC SN74LS624N
ICH10	8-759-202-12	s	IC TC74HC02P
ICH11	8-759-340-46	s	IC HD14046BP
ICH19	8-759-916-46	s	IC SN74HC14N
ICJ2	8-759-938-68	s	IC CXD1095Q
ICJ6	8-759-202-24	s	IC TC74HC86P
ICJ7	8-759-916-29	s	IC SN74HC74N
ICJ8	8-759-202-14	s	IC TC74HC08P
ICJ9	8-759-916-29	s	IC SN74HC74N
ICJ10	8-759-203-40	s	IC TC74HC393P
ICJ11	8-759-202-11	s	IC TC74HC00P
ICJ12	8-759-916-29	s	IC SN74HC74N
ICJ19	8-759-202-74	s	IC TC74HC04P
ICJ20	8-759-916-29	s	IC SN74HC74N
ICK1	8-759-202-26	s	IC TC74HC138P
ICK2	8-759-202-55	s	IC TC74HC244P
ICK3	8-759-202-26	s	IC TC74HC138P
ICK4	8-759-202-26	s	IC TC74HC138P
ICK5	8-759-202-26	s	IC TC74HC138P
ICK6	8-759-202-26	s	IC TC74HC138P
ICK7	8-759-202-16	s	IC TC74HC11P
ICK8	8-759-921-08	s	IC SN74HC02N
ICK9	8-759-203-82	s	IC TC74HC4520P
ICK10	8-759-203-01	s	IC TC74HC175P
ICK11	8-759-916-29	s	IC SN74HC74N
ICK12	8-759-202-30	s	IC TC74HC161P
ICK13	8-759-202-55	s	IC TC74HC244P
ICK14	8-759-203-40	s	IC TC74HC393P
ICK19	8-759-105-75	s	IC UPD70108D-8
ICL1	8-759-203-48	s	IC TC74HC573P
ICL2	8-759-203-48	s	IC TC74HC573P
ICL3	8-759-914-41	s	IC X2212P
ICL4	8-759-202-93	s	IC TC74HC153P
ICL5	8-759-202-11	s	IC TC74HC00P
ICL6	8-759-202-74	s	IC TC74HC04P
ICL7	8-759-203-82	s	IC TC74HC4520P
ICL8	8-759-202-74	s	IC TC74HC04P
ICL9	8-759-202-14	s	IC TC74HC08P
ICL10	8-759-203-82	s	IC TC74HC4520P
ICL11	8-759-202-74	s	IC TC74HC04P
ICL12	8-752-806-91	s	IC CXQ71054P
ICL14	8-759-203-40	s	IC TC74HC393P
ICL16	8-759-105-76	s	IC UPD71059C
ICM1	8-759-921-34	s	IC SN74HC245N
ICM2	8-759-921-34	s	IC SN74HC245N
ICM3	8-759-202-26	s	IC TC74HC138P
ICM4	8-759-202-89	s	IC TC74HC139P
ICM5	8-759-202-14	s	IC TC74HC08P

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICM6	8-759-202-21	s	IC TC74HC32P
ICM7	8-759-202-11	s	IC TC74HC00P
ICM8	8-759-202-14	s	IC TC74HC08P
ICM9	8-759-916-29	s	IC SN74HC74N
ICM10	8-759-916-29	s	IC SN74HC74N
ICM14	8-759-203-40	s	IC TC74HC393P
ICM17	8-759-203-33	s	IC TC74HC367P
ICM19	8-759-107-56	s	IC CXQ71011P
ICN1	8-759-202-55	s	IC TC74HC244P
ICN2	8-759-916-29	s	IC SN74HC74N
ICN3	8-759-742-76	s	IC, MBM27C256A-V1U3-1-0
ICN5	8-759-742-75	s	IC, MBM27C256A-V0U3-1-0
ICN7	8-759-300-63	s	IC HM6264LP-15
ICN8	8-759-938-83	s	IC CF77074NT
ICN9	8-759-938-83	s	IC CF77074NT
ICN11	8-759-938-83	s	IC CF77074NT
ICN12	8-752-806-91	s	IC CXQ71054P
ICN14	8-752-806-91	s	IC CXQ71054P
ICN15	8-752-806-91	s	IC CXQ71054P
ICN17	8-752-806-91	s	IC CXQ71054P
ICN19	8-752-806-91	s	IC CXQ71054P
L1	1-408-421-00	s	INDUCTOR 100UH 5%
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-421-370-00	s	COIL, CHOKE
Q1	8-729-900-80	s	TRANSISTOR DTC114ES
Q2	8-729-204-83	s	TRANSISTOR 2SA1048-GR
Q3	8-729-697-92	s	TRANSISTOR 2SA979
R1	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R2	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R3	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R5	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R6	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R7	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R8	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R9	1-215-436-00	s	RES, METAL 4.3K 1% 1/6W
R10	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R15	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R17	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R18	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R19	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R20	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R21	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R24	1-215-411-00	s	RES, METAL 390 1% 1/6W
R25	1-215-406-00	s	RES, METAL 240 1% 1/6W
R31	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R33	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R34	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R35	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R36	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R37	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R41	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R43	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R44	1-215-418-00	s	RES, METAL 750 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
R45	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R46	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R51	1-249-437-11	s	RES, CARBON 47K 5% 1/4W
R59	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R60	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R61	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R62	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R64	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R65	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R67	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R69	1-215-457-00	s	RES, METAL 33K 1% 1/6W
R74	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R78	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R79	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R80	1-247-883-00	s	RES, CARBON 150K 5% 1/4W
R83	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R88	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R89	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R90	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R91	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R92	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R93	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R103	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R104	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R105	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R106	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R107	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R141	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R143	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R145	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R146	1-215-461-00	s	RES, METAL 47K 1% 1/6W
R147	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R148	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R151	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R152	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R153	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R154	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R155	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R156	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R157	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R220	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R235	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R236	1-215-445-00	s	RES, METAL 10K 1% 1/6W
RB1	1-231-567-00	s	RESISTOR BLOCK 10K
RB2	1-231-567-00	s	RESISTOR BLOCK 10K
RB3	1-235-109-00	s	RESISTOR BLOCK 22K
RB4	1-235-109-00	s	RESISTOR BLOCK 22K
RB5	1-235-109-00	s	RESISTOR BLOCK 22K
RB6	1-235-005-00	s	RESISTOR BLOCK 47K
RB7	1-235-109-00	s	RESISTOR BLOCK 22K
RB8	1-235-109-00	s	RESISTOR BLOCK 22K
RB9	1-235-005-00	s	RESISTOR BLOCK 47K
RB10	1-235-005-00	s	RESISTOR BLOCK 47K
RB11	1-235-005-00	s	RESISTOR BLOCK 47K
RB12	1-231-401-00	s	RESISTOR BLOCK 470
RV1	1-230-837-11	s	RES, ADJ, METAL FILM 100
RV2	1-230-844-11	s	RES, ADJ, METAL FILM 20K
RV3	1-230-840-11	s	RES, ADJ, METAL FILM 1K
S1	1-553-441-00	s	SWITCH, TOGGLE

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SV-90 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
S2	1-552-539-00	s	SWITCH, PUSH
S3	1-552-539-00	s	SWITCH, PUSH
X2	1-567-798-12	s	CRYSTAL 14.7456MHz

SW-195 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
CN831	1-506-475-11	o	RECEP, 10P MALE
CN832	1-506-468-11	o	RECEP, 3P MALE
D1	8-719-940-89	s	DIODE SLP655B-50
D2	8-719-940-89	s	DIODE SLP655B-50
D3	8-719-940-89	s	DIODE SLP655B-50
IC1	8-759-645-16	s	IC M54516P
R1	1-247-751-11	s	RES, CARBON 820 5% 1/2W
S1	1-516-994-00	s	SWITCH, LEVER SLIDE
S2	1-516-994-00	s	SWITCH, LEVER SLIDE
S3	1-516-994-00	s	SWITCH, LEVER SLIDE

SY-103 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6017-146-A	o	COMPLETE PCB, SY-103
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C1	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C2	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C3	1-124-587-11	s	CAP, ELECT 220uF 20% 6.3V
C6	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C8	1-124-943-11	s	CAP, ELECT 39uF 20% 25V
C20	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C37	1-131-381-00	s	CAP, ELECT 47uF 10% 10V
C38	1-125-445-11	s	CAP, DOUBLE LAYERS 0.22F 5.5V
C39	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C40	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C41	1-131-363-00	s	CAP, TANT 4.7uF 10% 20V
C42	1-124-258-00	s	CAP, ELECT 3.3uF 20% 50V
C43	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C182	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C183	1-162-734-11	s	CAP, CERAMIC 1000PF 1% 50V
C186	1-124-233-00	s	CAP, ELECT 10uF 20% 6.3V
C187	1-102-110-00	s	CAP, CERAMIC 220PF 10% 55V
CN313	1-506-747-11	s	RECEP, DIN 64P MALE
CN314	1-506-748-11	s	RECEP, DIN 96P MALE
D2	8-719-911-19	s	DIODE 1SS119
D3	8-719-200-02	s	DIODE 10E-2
D4	8-719-911-19	s	DIODE 1SS119
D5	8-719-911-19	s	DIODE 1SS119
D8	8-719-400-35	s	DIODE LN35BP
D9	8-719-911-19	s	DIODE 1SS119
ICA1	8-759-202-17	s	IC TC74HC14P
ICA2	8-759-901-23	s	IC SN74LS123N
ICA3	8-759-202-92	s	IC TC74HC151P
ICA4	8-759-112-96	s	IC UPD6142C-001
ICA6	8-759-902-21	s	IC SN74LS221N
ICA7	8-759-202-74	s	IC TC74HC04P
ICA10	8-759-000-99	s	IC MC74HC74N
ICA11	8-759-202-11	s	IC TC74HC00P
ICA12	8-759-202-21	s	IC TC74HC32P
ICA13	8-759-202-26	s	IC TC74HC138P
ICB1	8-759-202-17	s	IC TC74HC14P
ICB2	8-759-202-11	s	IC TC74HC00P
ICB3	8-759-202-34	s	IC TC74HC257P
ICB4	8-759-202-34	s	IC TC74HC257P
ICB5	8-759-941-20	s	IC SN74120N
ICB6	8-759-941-20	s	IC SN74120N
ICB7	8-759-000-99	s	IC MC74HC74N
ICB8	8-759-202-21	s	IC TC74HC32P
ICB9	8-759-006-23	s	IC SN74LS290N
ICB10	8-759-202-14	s	IC TC74HC08P
ICB11	8-759-203-34	s	IC TC74HC368P
ICB12	8-759-202-74	s	IC TC74HC04P
ICB13	8-759-202-26	s	IC TC74HC138P
ICC1	8-759-202-14	s	IC TC74HC08P
ICC2	8-759-202-74	s	IC TC74HC04P
ICC3	8-759-910-76	s	IC CX-7913A

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SY-103 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
ICC8	8-759-000-99	s	IC MC74HC74N
ICC9	8-759-340-46	s	IC HD14046BP
ICC10	8-759-909-16	s	IC CX-7907A
ICC12	8-759-901-89	s	IC SN74LS189AN
ICC13	8-759-202-26	s	IC TC74HC138P
ICC14	8-759-202-55	s	IC TC74HC244P
ICD1	8-759-202-11	s	IC TC74HC00P
ICD2	8-759-202-74	s	IC TC74HC04P
ICD3	8-759-202-14	s	IC TC74HC08P
ICD4	8-759-202-34	s	IC TC74HC257P
ICD5	8-759-901-89	s	IC SN74LS189AN
ICD6	8-759-202-34	s	IC TC74HC257P
ICD7	8-759-901-89	s	IC SN74LS189AN
ICD8	8-759-202-27	s	IC TC74HC157P
ICD9	8-759-203-40	s	IC TC74HC393P
ICD10	8-759-202-74	s	IC TC74HC04P
ICD11	8-759-203-40	s	IC TC74HC393P
ICD12	8-759-202-34	s	IC TC74HC257P
ICD14	8-759-202-33	s	IC TC74HC240P
ICE1	8-759-202-11	s	IC TC74HC00P
ICE3	8-759-938-68	s	IC CXD1095Q
ICE5	8-759-000-99	s	IC MC74HC74N
ICE6	8-759-202-97	s	IC TC74HC165P
ICE7	8-759-202-55	s	IC TC74HC244P
ICE8	8-759-901-89	s	IC SN74LS189AN
ICE10	8-759-240-21	s	IC TC4021BP
ICE11	8-759-240-21	s	IC TC4021BP
ICE12	8-759-240-21	s	IC TC4021BP
ICE13	8-759-240-21	s	IC TC4021BP
ICE14	8-759-202-74	s	IC TC74HC04P
ICF1	8-759-926-32	s	IC AM26LS32PC
ICF2	8-759-926-30	s	IC AM26LS30PC
ICF3	8-759-926-30	s	IC AM26LS30PC
ICF4	8-759-202-21	s	IC TC74HC32P
ICF5	8-759-202-11	s	IC TC74HC00P
ICF6	8-759-007-19	s	IC MC74HC4051N
ICF7	8-759-202-74	s	IC TC74HC04P
ICF8	8-759-202-11	s	IC TC74HC00P
ICF9	8-759-202-14	s	IC TC74HC08P
ICF10	8-759-202-74	s	IC TC74HC04P
ICF13	8-759-938-68	s	IC CXD1095Q
ICF14	8-759-203-40	s	IC TC74HC393P
ICF15	8-759-203-82	s	IC TC74HC4520P
ICG1	8-759-926-32	s	IC AM26LS32PC
ICG3	8-759-926-30	s	IC AM26LS30PC
ICG4	8-759-202-21	s	IC TC74HC32P
ICG5	8-759-202-14	s	IC TC74HC08P
ICG6	8-759-007-20	s	IC MC74HC4052N
ICG7	8-759-202-74	s	IC TC74HC04P
ICG8	8-759-202-14	s	IC TC74HC08P
ICG9	8-759-202-21	s	IC TC74HC32P
ICG10	8-759-202-11	s	IC TC74HC00P
ICG11	8-759-202-93	s	IC TC74HC153P
ICG12	8-759-000-99	s	IC MC74HC74N
ICG13	8-759-203-40	s	IC TC74HC393P

(SY-103 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
ICG14	8-759-107-56	s	IC CXQ71011P
ICH1	8-759-202-17	s	IC TC74HC14P
ICH2	8-759-202-27	s	IC TC74HC157P
ICH3	8-759-202-27	s	IC TC74HC157P
ICH4	8-759-202-27	s	IC TC74HC157P
ICH5	8-759-202-55	s	IC TC74HC244P
ICH6	8-759-107-51	s	IC CXQ71051P
ICH7	8-759-103-24	s	IC UPD7201AD
ICH8	8-752-806-91	s	IC CXQ71054P
ICH10	8-752-328-10	s	IC CXK5864BP-10L
ICH11	8-759-742-99	s	IC, MBM27C256A-Y1A2-4-0
ICH12	8-759-742-98	s	IC, MBM27C256A-Y0A2-4-0
ICH13	8-759-203-48	s	IC TC74HC573P
ICH14	8-759-105-75	s	IC UPD70108D-8
ICJ1	8-759-008-57	s	IC MC34051P
ICJ2	8-759-202-21	s	IC TC74HC32P
ICJ3	8-752-328-10	s	IC CXK5864BP-10L
ICJ4	8-759-202-56	s	IC TC74HC245P
ICJ5	8-759-105-76	s	IC UPD71059C
ICJ8	8-759-202-15	s	IC TC74HC10P
ICJ9	8-759-000-99	s	IC MC74HC74N
ICJ10	8-759-202-26	s	IC TC74HC138P
ICJ11	8-759-202-17	s	IC TC74HC14P
ICJ12	8-759-202-14	s	IC TC74HC08P
ICJ13	8-759-202-56	s	IC TC74HC245P
ICK1	8-759-202-56	s	IC TC74HC245P
ICK2	8-759-202-56	s	IC TC74HC245P
ICK6	8-759-001-00	s	IC MC74HC132N
ICK9	8-759-202-11	s	IC TC74HC00P
ICK10	8-759-202-26	s	IC TC74HC138P
ICK11	8-759-000-99	s	IC MC74HC74N
ICK12	8-759-202-21	s	IC TC74HC32P
ICK13	8-759-203-33	s	IC TC74HC367P
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L4	1-410-332-11	s	INDUCTOR 47UH 10%
Q1	8-729-900-36	s	TRANSISTOR DTC124ES
R27	1-215-476-00	s	RES, METAL 200K 1% 1/6W
R45	1-247-743-11	s	RES, CARBON 220 5% 1/2W
R46	1-247-745-11	s	RES, CARBON 330 5% 1/2W
R56	1-215-465-00	s	RES, METAL 68K 1% 1/6W
R57	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
RB1	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB2	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB3	1-231-549-11	s	BLOCK, RESISTOR 47KX4
RB4	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB5	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB6	1-235-005-00	s	RESISTOR BLOCK 47KX8
RB7	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB8	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB9	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB10	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB11	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB12	1-231-410-00	s	RESISTOR BLOCK 10KX8

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(SY-103 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
RB13	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB14	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB15	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB16	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB17	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB18	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB19	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB20	1-231-410-00	s	RESISTOR BLOCK 10KX8
RB21	1-231-533-00	s	RESISTOR BLOCK 10KX4
RB22	1-231-533-00	s	RESISTOR BLOCK 10KX4
S2	1-552-539-00	s	SWITCH, PUSH
X1	1-567-798-12	s	CRYSTAL 14.7456MHz
X2	1-567-795-11	s	CRYSTAL 14.500MHz
X3	1-567-794-11	s	CRYSTAL 14.31818MHz

VO-16 BOARD, BVH-3000PS/3100PS

Board No.
1-621-101-12

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6011-115-A	o	COMPLETE BCP, VO-16
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C26	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C81	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C105	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C106	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C107	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C108	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C109	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C110	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C111	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C112	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C113	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C114	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C115	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C116	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C117	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C126	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C133	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C134	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C136	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C137	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C138	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C140	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C141	1-107-161-00	s	CAP, MICA 39PF 5% 500V
C142	1-109-558-00	s	CAP, MICA 750PF 5% 100V
C143	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C147	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C148	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C149	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C150	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C152	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C153	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C154	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C155	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C156	1-109-557-00	s	CAP, MICA 680PF 5% 100V
C157	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C159	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C164	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C165	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C166	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C167	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C168	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C169	1-130-478-00	s	CAP, MYLAR 0.0039uF 5% 50V
C170	1-130-474-00	s	CAP, MYLAR 0.0018uF 5% 50V
C171	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C172	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C173	1-136-156-00	s	CAP, MYLAR 0.018uF 5% 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C174	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C175	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C176	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C177	1-130-478-00	s	CAP, MYLAR 0.0039uF 5% 50V
C178	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C179	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C180	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C181	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C182	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C183	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C184	1-124-578-11	s	CAP, ELECT 120uF 20% 16V
C185	1-124-578-11	s	CAP, ELECT 120uF 20% 16V
C233	1-124-282-00	s	CAP, ELECT, NONPOLAR 22uF 20% 25V
C239	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C240	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C241	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C242	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C243	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C244	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C245	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C246	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C247	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C248	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C249	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C250	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C251	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C252	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C253	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C257	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C258	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C259	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C260	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C261	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C262	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C263	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C264	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C267	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C268	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C270	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C271	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C272	1-107-162-00	s	CAP, MICA 43PF 5% 500V
C273	1-107-162-00	s	CAP, MICA 43PF 5% 500V
C274	1-109-546-00	s	CAP, MICA 300PF 5% 100V
C278	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C415	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C416	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C417	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C418	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C419	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C420	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C421	1-124-445-00	s	CAP, ELECT 100uF 20% 16V

Ref. No. or Q'ty	Part No.	SP	Description
C422	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C423	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C424	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C425	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C426	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C427	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C428	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C429	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C430	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C431	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C432	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C433	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C434	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C439	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C440	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C441	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C442	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C446	1-124-767-00	s	CAP, ELECT, NONPOLAR 2.2uF 20% 50V
C448	1-107-037-00	s	CAP, MICA 82PF 5% 500V
C453	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C455	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C460	1-109-537-00	s	CAP, MICA 120PF 5% 100V
C462	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C464	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C467	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C468	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C469	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C471	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C478	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C479	1-109-783-00	s	CAP, MICA 0.001uF 1% 100V
C481	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C486	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C487	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C488	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C489	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C510	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C515	1-124-767-00	s	CAP, ELECT, NONPOLAR 2.2uF 20% 50V
C520	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C521	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C526	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C527	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C530	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C532	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C535	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C536	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C538	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C543	1-102-114-00	s	CAP, CERAMIC 470PF 10% 50V
C554	1-161-485-00	s	CAP, CERAMIC 0.1uF 50%
C600	1-130-475-11	s	CAP, MYLAR 0.0022uF 5% 50V
CN303	1-506-748-11	s	RECEP, DIN 96P MALE
CN304	1-506-748-11	s	RECEP, DIN 96P MALE
CP1	1-162-617-11	s	CERAMIC 0.022MF 50V
CP2	1-162-617-11	s	CERAMIC 0.022MF 50V

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
CP3	1-162-617-11	s	CERAMIC 0.022MF 50V
CP4	1-162-617-11	s	CERAMIC 0.022MF 50V
CP5	1-162-617-11	s	CERAMIC 0.022MF 50V
CP6	1-162-617-11	s	CERAMIC 0.022MF 50V
CP7	1-162-617-11	s	CERAMIC 0.022MF 50V
CP8	1-162-617-11	s	CERAMIC 0.022MF 50V
CP9	1-162-617-11	s	CERAMIC 0.022MF 50V
CP10	1-162-617-11	s	CERAMIC 0.022MF 50V
CT1	1-141-254-00	s	CAP, TRIMMER 30PF
CT3	1-141-304-00	s	CAP, TRIMMER 10PF
D1	8-719-101-97	s	DIODE 1SS97-1
D2	8-719-101-97	s	DIODE 1SS97-1
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D6	8-719-915-30	s	DIODE FC53M
D7	8-719-915-30	s	DIODE FC53M
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-109-70	s	DIODE RD3.9ESB
D10	8-719-911-19	s	DIODE 1SS119
D12	8-719-109-91	s	DIODE RD6.2ESB
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119
D18	8-719-109-79	s	DIODE RD4.7ESB
D19	8-719-101-97	s	DIODE 1SS97-1
D21	8-719-109-79	s	DIODE RD4.7ESB
D22	8-719-109-87	s	DIODE RD5.6ESB
D24	8-719-911-19	s	DIODE 1SS119
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-911-19	s	DIODE 1SS119
D27	8-719-911-19	s	DIODE 1SS119
DL1	1-415-479-11	s	DELAY LINE 28nS
DL2	1-415-479-11	s	DELAY LINE 28nS
FB1	1-535-178-00	s	FERRITE BEAD
FB2	1-535-178-00	s	FERRITE BEAD
FB3	1-535-178-00	s	FERRITE BEAD
FB4	1-535-178-00	s	FERRITE BEAD
FL1	1-235-961-11	s	FILTER, LOW-PASS
FL2	1-235-961-11	s	FILTER, LOW-PASS
FL3	1-235-987-11	s	FILTER, LOW-PASS
IC1	8-749-936-61	s	IC BX-366A
IC2	8-749-936-51	s	IC BX-365A
IC3	8-720-002-91	s	TRANSISTOR TX-429M
IC4	8-741-124-40	s	IC BX-1244
IC5	8-749-936-51	s	IC BX-365A
IC6	8-749-936-51	s	IC BX-365A
IC7	8-759-990-82	s	IC TL082CP
IC8	8-752-015-81	s	IC CX20158
IC9	8-752-015-81	s	IC CX20158
IC10	8-759-900-00	s	IC SN74LS00N
IC11	8-759-001-16	s	IC MC10116L
IC12	8-759-001-16	s	IC MC10116L
IC13	8-759-001-16	s	IC MC10116L
IC14	8-743-931-10	s	IC BX-3931A
IC15	8-759-942-65	s	IC SN74265N
IC16	8-759-900-08	s	IC SN74LS08N
IC17	8-741-130-60	s	IC BX-1306
IC18	8-741-130-60	s	IC BX-1306
IC19	8-741-130-60	s	IC BX-1306
IC20	8-759-990-82	s	IC TL082CP
IC21	8-759-112-13	s	IC UPC1663C
IC22	8-759-112-13	s	IC UPC1663C
IC23	8-759-990-82	s	IC TL082CP
IC24	8-759-015-95	s	IC MC1595L
IC25	8-759-001-16	s	IC MC10116L
IC26	8-759-001-16	s	IC MC10116L
IC27	8-759-301-17	s	IC HD10117
IC29	8-741-130-60	s	IC BX-1306
IC31	8-759-906-85	s	IC AM685DL
IC32	8-759-001-16	s	IC MC10116L
IC33	8-759-301-04	s	IC HD10104
IC34	8-759-990-82	s	IC TL082CP
IC35	8-752-015-81	s	IC CX20158
IC36	8-759-990-82	s	IC TL082CP
IC37	8-749-936-51	s	IC BX-365A
IC38	8-741-124-40	s	IC BX-1244
IC39	8-749-936-61	s	IC BX-366A
IC40	8-749-936-61	s	IC BX-366A
IC41	8-749-936-61	s	IC BX-366A
IC42	8-759-990-82	s	IC TL082CP
IC43	8-759-201-47	s	IC TA7357AP
IC44	8-759-902-21	s	IC SN74LS221N
IC45	8-759-902-21	s	IC SN74LS221N
IC46	8-759-001-16	s	IC MC10116L
IC47	8-759-301-17	s	IC HD10117
IC48	8-759-001-16	s	IC MC10116L
IC49	8-759-301-04	s	IC HD10104
IC50	8-759-990-82	s	IC TL082CP
IC51	8-759-906-01	s	IC TL601CP
IC52	8-741-124-40	s	IC BX-1244
IC53	8-759-990-84	s	IC TL084CN
IC54	8-759-906-01	s	IC TL601CP
IC55	8-759-906-07	s	IC TL607CP
IC56	8-759-990-84	s	IC TL084CN
IC57	8-759-990-82	s	IC TL082CP
IC58	8-759-902-21	s	IC SN74LS221N
IC59	8-759-900-00	s	IC SN74LS00N
IC60	8-759-902-21	s	IC SN74LS221N
IC61	8-759-951-07	s	IC SN75107AN
IC62	8-759-901-23	s	IC SN74LS123N
IC63	8-759-900-00	s	IC SN74LS00N
IC64	8-759-901-23	s	IC SN74LS123N
IC65	8-759-901-23	s	IC SN74LS123N
IC66	8-759-942-65	s	IC SN74265N
IC67	8-759-990-82	s	IC TL082CP
IC68	8-752-015-81	s	IC CX20158
IC69	8-759-201-47	s	IC TA7357AP
IC70	8-759-902-21	s	IC SN74LS221N
IC71	8-759-902-21	s	IC SN74LS221N
IC72	8-759-900-00	s	IC SN74LS00N
IC73	8-759-902-21	s	IC SN74LS221N
IC74	8-759-990-82	s	IC TL082CP
IC75	8-759-906-07	s	IC TL607CP

NOTE : Please see pages D-42 and D-43 for the
part numbers of capacitors and resistors
that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
IC76	8-759-951-07	s	IC SN75107AN
IC77	8-759-014-96	s	IC MC1496P
IC78	8-759-900-00	s	IC SN74LS00N
IC79	8-759-990-82	s	IC TL082CP
IC80	8-759-926-10	s	IC TL610CP
IC81	8-759-901-23	s	IC SN74LS123N
IC82	8-759-951-07	s	IC SN75107AN
IC85	8-759-900-00	s	IC SN74LS00N
IC87	8-759-900-05	s	IC SN74LS05N
IC88	8-759-951-07	s	IC SN75107AN
IC89	8-759-900-02	s	IC SN74LS02N
IC90	8-759-902-21	s	IC SN74LS221N
IC91	8-759-900-74	s	IC SN74LS74AN
IC92	8-759-901-63	s	IC SN74LS163AN
IC93	8-759-901-51	s	IC SN74LS151N
IC94	8-759-900-00	s	IC SN74LS00N
IC95	8-759-902-21	s	IC SN74LS221N
IC96	8-759-902-21	s	IC SN74LS221N
IC97	8-759-900-04	s	IC SN74LS04N
IC98	8-759-900-04	s	IC SN74LS04N
IC99	8-759-938-68	s	IC CXD1095Q
IC101	8-759-708-05	s	IC NJM78L05A
IC102	8-759-700-65	s	IC NJM79L05A
IC103	8-759-906-07	s	IC TL607CP
IC104	8-759-990-82	s	IC TL082CP
IC105	8-759-900-08	s	IC SN74LS08N
IC106	8-759-902-21	s	IC SN74LS221N
IC107	8-759-708-05	s	IC NJM78L05A
IC108	8-759-700-65	s	IC NJM79L05A
IC109	8-759-708-05	s	IC NJM78L05A
IC110	8-759-700-65	s	IC NJM79L05A
IC111	8-759-900-00	s	IC SN74LS00N
IC112	8-759-974-07	s	IC SN7407N
IC113	8-759-974-07	s	IC SN7407N
IC114	8-759-708-05	s	IC NJM78L05A
IC115	8-759-700-65	s	IC NJM79L05A
IC116	8-759-708-05	s	IC NJM78L05A
IC117	8-759-906-07	s	IC TL607CP
IC118	8-759-906-07	s	IC TL607CP
IC119	8-759-990-84	s	IC TL084CN
IC120	8-720-002-92	s	TRANSISTOR TX-429M
IC121	8-759-990-82	s	IC TL082CP
IC122	8-759-708-05	s	IC NJM78L05A
IC123	8-759-301-31	s	IC HD10131
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-408-427-00	s	INDUCTOR 330UH 5%
L6	1-408-405-00	s	INDUCTOR 4.7UH 5%
L7	1-408-405-00	s	INDUCTOR 4.7UH 5%
L8	1-408-416-00	s	INDUCTOR 39UH 5%
L9	1-408-414-00	s	INDUCTOR 27UH 5%
L10	1-408-416-00	s	INDUCTOR 39UH 5%
L11	1-408-416-00	s	INDUCTOR 39UH 5%

Ref. No. or Q'ty	Part No.	SP	Description
L12	1-408-420-00	s	INDUCTOR 82UH 5%
L13	1-408-429-00	s	INDUCTOR 470UH 5%
L14	1-408-416-00	s	INDUCTOR 39UH 5%
L15	1-408-416-00	s	INDUCTOR 39UH 5%
L16	1-408-407-00	s	INDUCTOR 6.8UH 5%
L17	1-408-426-00	s	INDUCTOR 270UH 5%
L18	1-408-426-00	s	INDUCTOR 270UH 5%
L19	1-410-959-11	s	INDUCTOR 3.3UH 5%
L20	1-408-402-00	s	INDUCTOR 2.7UH 5%
L21	1-408-405-00	s	INDUCTOR 4.7UH 5%
L22	1-410-960-11	s	INDUCTOR 6.8UH 5%
L23	1-410-960-11	s	INDUCTOR 6.8UH 5%
L25	1-408-407-00	s	INDUCTOR 6.8UH 5%
L30	1-408-415-00	s	INDUCTOR 33UH 5%
Q1	8-729-679-82	s	TRANSISTOR 2SA798
Q2	8-729-302-07	s	TRANSISTOR 2SC2512
Q3	8-729-302-07	s	TRANSISTOR 2SC2512
Q4	8-729-302-07	s	TRANSISTOR 2SC2512
Q5	8-729-302-07	s	TRANSISTOR 2SC2512
Q6	8-729-100-88	s	TRANSISTOR 2SA1223
Q7	8-729-100-88	s	TRANSISTOR 2SA1223
Q8	8-729-302-07	s	TRANSISTOR 2SC2512
Q9	8-729-117-33	s	TRANSISTOR 2SC1733
Q10	8-729-302-07	s	TRANSISTOR 2SC2512
Q11	8-729-302-07	s	TRANSISTOR 2SC2512
Q12	8-729-302-07	s	TRANSISTOR 2SC2512
Q13	8-729-302-07	s	TRANSISTOR 2SC2512
Q14	8-729-302-07	s	TRANSISTOR 2SC2512
Q15	8-729-302-07	s	TRANSISTOR 2SC2512
Q16	8-729-302-07	s	TRANSISTOR 2SC2512
Q17	8-729-302-07	s	TRANSISTOR 2SC2512
Q18	8-729-302-07	s	TRANSISTOR 2SC2512
Q19	8-729-302-07	s	TRANSISTOR 2SC2512
Q21	8-729-112-06	s	TRANSISTOR 2SA1206
Q26	8-729-302-07	s	TRANSISTOR 2SC2512
Q27	8-729-302-07	s	TRANSISTOR 2SC2512
Q28	8-729-302-07	s	TRANSISTOR 2SC2512
Q29	8-729-112-06	s	TRANSISTOR 2SA1206
Q30	8-729-112-06	s	TRANSISTOR 2SA1206
Q31	8-729-302-07	s	TRANSISTOR 2SC2512
Q32	8-729-302-07	s	TRANSISTOR 2SC2512
Q33	8-729-302-07	s	TRANSISTOR 2SC2512
Q34	8-729-302-07	s	TRANSISTOR 2SC2512
Q35	8-729-302-07	s	TRANSISTOR 2SC2512
Q36	8-729-302-07	s	TRANSISTOR 2SC2512
Q37	8-729-302-07	s	TRANSISTOR 2SC2512
Q38	8-729-112-06	s	TRANSISTOR 2SA1206
Q39	8-729-112-06	s	TRANSISTOR 2SA1206
Q40	8-729-302-07	s	TRANSISTOR 2SC2512
Q41	8-729-112-06	s	TRANSISTOR 2SA1206
Q42	8-729-302-07	s	TRANSISTOR 2SC2512
Q43	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q44	8-729-302-07	s	TRANSISTOR 2SC2512
Q45	8-729-900-61	s	TRANSISTOR DTA114ES
Q46	8-729-302-07	s	TRANSISTOR 2SC2512
Q47	8-729-302-07	s	TRANSISTOR 2SC2512
Q53	8-729-105-71	s	TRANSISTOR 2SK523-K2

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
Q54	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q55	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q57	8-729-112-06	s	TRANSISTOR 2SA1206
Q58	8-729-112-06	s	TRANSISTOR 2SA1206
Q59	8-729-302-07	s	TRANSISTOR 2SC2512
Q60	8-729-302-07	s	TRANSISTOR 2SC2512
Q61	8-729-302-07	s	TRANSISTOR 2SC2512
Q62	8-729-302-07	s	TRANSISTOR 2SC2512
Q63	8-729-112-06	s	TRANSISTOR 2SA1206
Q64	8-769-162-00	s	TRANSISTOR 2SK152-2
Q65	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q66	8-729-611-53	s	TRANSISTOR 2SA1115-F
Q67	8-729-611-53	s	TRANSISTOR 2SA1115-F
Q68	8-729-611-53	s	TRANSISTOR 2SA1115-F
R1	1-215-390-00	s	RES, METAL 51 1% 1/6W
R3	1-215-414-00	s	RES, METAL 510 1% 1/6W
R4	1-215-400-00	s	RES, METAL 130 1% 1/6W
R8	1-215-401-11	s	RES, METAL 150 1% 1/6W
R9	1-215-417-00	s	RES, METAL 680 1% 1/6W
R17	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R18	1-215-409-00	s	RES, METAL 330 1% 1/6W
R19	1-215-401-11	s	RES, METAL 150 1% 1/6W
R23	1-215-409-00	s	RES, METAL 330 1% 1/6W
R24	1-215-409-00	s	RES, METAL 330 1% 1/6W
R32	1-215-401-11	s	RES, METAL 150 1% 1/6W
R34	1-215-390-00	s	RES, METAL 51 1% 1/6W
R37	1-215-413-00	s	RES, METAL 470 1% 1/6W
R38	1-215-385-00	s	RES, METAL 33 1% 1/6W
R39	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R40	1-215-380-00	s	RES, METAL 20 1% 1/6W
R43	1-215-416-00	s	RES, METAL 620 1% 1/6W
R48	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R49	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R50	1-215-413-00	s	RES, METAL 470 1% 1/6W
R51	1-215-413-00	s	RES, METAL 470 1% 1/6W
R56	1-215-395-00	s	RES, METAL 82 1% 1/6W
R57	1-215-395-00	s	RES, METAL 82 1% 1/6W
R58	1-215-400-00	s	RES, METAL 130 1% 1/6W
R59	1-215-395-00	s	RES, METAL 82 1% 1/6W
R60	1-215-395-00	s	RES, METAL 82 1% 1/6W
R61	1-215-400-00	s	RES, METAL 130 1% 1/6W
R71	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R72	1-215-409-00	s	RES, METAL 330 1% 1/6W
R73	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R74	1-215-408-00	s	RES, METAL 300 1% 1/6W
R75	1-215-401-11	s	RES, METAL 150 1% 1/6W
R76	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R79	1-215-412-00	s	RES, METAL 430 1% 1/6W
R80	1-215-405-00	s	RES, METAL 220 1% 1/6W
R106	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R107	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R108	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R109	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R110	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R122	1-215-408-00	s	RES, METAL 300 1% 1/6W
R125	1-215-401-11	s	RES, METAL 150 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R126	1-215-405-00	s	RES, METAL 220 1% 1/6W
R127	1-215-405-00	s	RES, METAL 220 1% 1/6W
R128	1-215-417-00	s	RES, METAL 680 1% 1/6W
R129	1-215-417-00	s	RES, METAL 680 1% 1/6W
R134	1-215-417-00	s	RES, METAL 680 1% 1/6W
R135	1-215-417-00	s	RES, METAL 680 1% 1/6W
R136	1-215-417-00	s	RES, METAL 680 1% 1/6W
R137	1-215-417-00	s	RES, METAL 680 1% 1/6W
R138	1-215-409-00	s	RES, METAL 330 1% 1/6W
R139	1-215-409-00	s	RES, METAL 330 1% 1/6W
R140	1-215-417-00	s	RES, METAL 680 1% 1/6W
R141	1-215-417-00	s	RES, METAL 680 1% 1/6W
R142	1-215-409-00	s	RES, METAL 330 1% 1/6W
R143	1-215-409-00	s	RES, METAL 330 1% 1/6W
R144	1-215-417-00	s	RES, METAL 680 1% 1/6W
R145	1-215-417-00	s	RES, METAL 680 1% 1/6W
R146	1-215-417-00	s	RES, METAL 680 1% 1/6W
R147	1-215-417-00	s	RES, METAL 680 1% 1/6W
R148	1-215-413-00	s	RES, METAL 470 1% 1/6W
R149	1-215-413-00	s	RES, METAL 470 1% 1/6W
R155	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R156	1-215-434-00	s	RES, METAL 3.6K 1% 1/6W
R163	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R164	1-215-415-00	s	RES, METAL 560 1% 1/6W
R165	1-215-415-00	s	RES, METAL 560 1% 1/6W
R184	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R185	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R190	1-215-397-00	s	RES, METAL 100 1% 1/6W
R192	1-215-401-11	s	RES, METAL 150 1% 1/6W
R193	1-215-401-11	s	RES, METAL 150 1% 1/6W
R214	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R215	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R233	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R234	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R235	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R261	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R264	1-215-391-00	s	RES, METAL 56 1% 1/6W
R268	1-215-391-00	s	RES, METAL 56 1% 1/6W
R272	1-215-391-00	s	RES, METAL 56 1% 1/6W
R276	1-215-391-00	s	RES, METAL 56 1% 1/6W
R286	1-215-438-00	s	RES, METAL 5.1K 1/6W 1%
R287	1-215-387-00	s	RES, METAL 39 1% 1/6W
R288	1-215-387-00	s	RES, METAL 39 1% 1/6W
R289	1-215-417-00	s	RES, METAL 680 1% 1/6W
R290	1-215-417-00	s	RES, METAL 680 1% 1/6W
R291	1-215-417-00	s	RES, METAL 680 1% 1/6W
R292	1-215-438-00	s	RES, METAL 5.1K 1/6W 1%
R296	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R309	1-215-400-00	s	RES, METAL 130 1% 1/6W
R340	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R341	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R345	1-215-411-00	s	RES, METAL 390 1% 1/6W
R349	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R350	1-215-401-11	s	RES, METAL 150 1% 1/6W
R365	1-215-413-00	s	RES, METAL 470 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
R366	1-215-413-00	s	RES, METAL 470 1% 1/6W
R372	1-215-399-00	s	RES, METAL 120 1% 1/6W
R389	1-215-414-00	s	RES, METAL 510 1% 1/6W
R392	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R393	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R415	1-215-380-00	s	RES, METAL 20 1% 1/6W
R418	1-215-411-00	s	RES, METAL 390 1% 1/6W
R423	1-215-458-00	s	RES, METAL 36K 1% 1/6W
R433	1-215-413-00	s	RES, METAL 470 1% 1/6W
R434	1-215-413-00	s	RES, METAL 470 1% 1/6W
R439	1-215-390-00	s	RES, METAL 51 1% 1/6W
R440	1-215-390-00	s	RES, METAL 51 1% 1/6W
R441	1-215-397-00	s	RES, METAL 100 1% 1/6W
R442	1-215-401-11	s	RES, METAL 150 1% 1/6W
R443	1-215-401-11	s	RES, METAL 150 1% 1/6W
R444	1-215-401-11	s	RES, METAL 150 1% 1/6W
R445	1-215-401-11	s	RES, METAL 150 1% 1/6W
R446	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R447	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R448	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R449	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R450	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R451	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R452	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R453	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R454	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R455	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R456	1-215-405-00	s	RES, METAL 220 1% 1/6W
R457	1-215-405-00	s	RES, METAL 220 1% 1/6W
R459	1-215-390-00	s	RES, METAL 51 1% 1/6W
R460	1-215-390-00	s	RES, METAL 51 1% 1/6W
R461	1-215-397-00	s	RES, METAL 100 1% 1/6W
R462	1-215-390-00	s	RES, METAL 51 1% 1/6W
R463	1-215-390-00	s	RES, METAL 51 1% 1/6W
R464	1-215-397-00	s	RES, METAL 100 1% 1/6W
R465	1-215-390-00	s	RES, METAL 51 1% 1/6W
R466	1-215-390-00	s	RES, METAL 51 1% 1/6W
R467	1-215-397-00	s	RES, METAL 100 1% 1/6W
R468	1-215-385-00	s	RES, METAL 33 1% 1/6W
R469	1-215-385-00	s	RES, METAL 33 1% 1/6W
R470	1-215-397-00	s	RES, METAL 100 1% 1/6W
R471	1-215-397-00	s	RES, METAL 100 1% 1/6W
R472	1-215-390-00	s	RES, METAL 51 1% 1/6W
R473	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R474	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R475	1-215-401-11	s	RES, METAL 150 1% 1/6W
R476	1-215-401-11	s	RES, METAL 150 1% 1/6W
R477	1-215-385-00	s	RES, METAL 33 1% 1/6W
R478	1-215-385-00	s	RES, METAL 33 1% 1/6W
R479	1-215-415-00	s	RES, METAL 560 1% 1/6W
R480	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R482	1-215-401-11	s	RES, METAL 150 1% 1/6W
R483	1-215-397-00	s	RES, METAL 100 1% 1/6W
R484	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R485	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R486	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R487	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R488	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R489	1-215-397-00	s	RES, METAL 100 1% 1/6W
R490	1-215-397-00	s	RES, METAL 100 1% 1/6W
R491	1-215-397-00	s	RES, METAL 100 1% 1/6W
R492	1-215-397-00	s	RES, METAL 100 1% 1/6W
R493	1-215-419-00	s	RES, METAL 820 1% 1/6W
R495	1-215-373-31	s	RES, METAL 10 1% 1/6W
R496	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R497	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R498	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R499	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R500	1-215-411-00	s	RES, METAL 390 1% 1/6W
R502	1-215-402-00	s	RES, METAL 160 1% 1/6W
R503	1-215-382-00	s	RES, METAL 24 1% 1/6W
R507	1-215-417-00	s	RES, METAL 680 1% 1/6W
R508	1-215-417-00	s	RES, METAL 680 1% 1/6W
R509	1-215-390-00	s	RES, METAL 51 1% 1/6W
R510	1-215-390-00	s	RES, METAL 51 1% 1/6W
R511	1-215-397-00	s	RES, METAL 100 1% 1/6W
R516	1-215-417-00	s	RES, METAL 680 1% 1/6W
R517	1-215-417-00	s	RES, METAL 680 1% 1/6W
R519	1-215-405-00	s	RES, METAL 220 1% 1/6W
R520	1-215-405-00	s	RES, METAL 220 1% 1/6W
R521	1-215-390-00	s	RES, METAL 51 1% 1/6W
R522	1-215-390-00	s	RES, METAL 51 1% 1/6W
R523	1-215-397-00	s	RES, METAL 100 1% 1/6W
R530	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R531	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R532	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R533	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R534	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R537	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R539	1-215-401-11	s	RES, METAL 150 1% 1/6W
R541	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R542	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R543	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R544	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R545	1-215-411-00	s	RES, METAL 390 1% 1/6W
R547	1-215-388-00	s	RES, METAL 43 1% 1/6W
R550	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R551	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R552	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R553	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R554	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R555	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R564	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R566	1-215-456-00	s	RES, METAL 30K 1% 1/6W
R567	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R568	1-215-415-00	s	RES, METAL 560 1% 1/6W
R569	1-215-415-00	s	RES, METAL 560 1% 1/6W
R570	1-215-397-00	s	RES, METAL 100 1% 1/6W
R574	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R575	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R576	1-215-401-11	s	RES, METAL 150 1% 1/6W
R577	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R578	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
R583	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R584	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R585	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R587	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R588	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R591	1-215-397-00	s	RES, METAL 100 1% 1/6W
R594	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R608	1-215-377-00	s	RES, METAL 15 1% 1/6W
R609	1-215-377-00	s	RES, METAL 15 1% 1/6W
R610	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R611	1-215-401-11	s	RES, METAL 150 1% 1/6W
R612	1-215-401-11	s	RES, METAL 150 1% 1/6W
RV1	1-230-841-11	s	RES, ADJ, METAL 2K
RV2	1-230-837-11	s	RES, ADJ, METAL 100
RV3	1-230-838-11	s	RES, ADJ, METAL 200
RV4	1-230-837-11	s	RES, ADJ, METAL 100
RV5	1-230-843-11	s	RES, ADJ, METAL 10K
RV6	1-230-838-11	s	RES, ADJ, METAL 200
RV7	1-230-739-21	s	RES, VAR, CARBON 1K(B)
RV8	1-237-259-11	s	RES, ADJ, METAL 2K
RV9	1-230-838-11	s	RES, ADJ, METAL 200
RV10	1-230-845-11	s	RES, ADJ, METAL 50K
RV11	1-230-843-11	s	RES, ADJ, METAL 10K
RV12	1-230-843-11	s	RES, ADJ, METAL 10K
RV13	1-230-836-11	s	RES, ADJ, METAL 50
RV15	1-230-840-11	s	RES, ADJ, METAL 1K
RV16	1-230-838-11	s	RES, ADJ, METAL 200
RV17	1-230-839-11	s	RES, ADJ, METAL 500
RV18	1-230-844-11	s	RES, ADJ, METAL 20K
RV19	1-230-839-11	s	RES, ADJ, METAL 500
RV20	1-230-839-11	s	RES, ADJ, METAL 500
RV21	1-230-839-11	s	RES, ADJ, METAL 500
RV22	1-230-839-11	s	RES, ADJ, METAL 500
RV23	1-230-740-11	s	RES, VAR, CARBON 5K(B)
RV24	1-230-842-11	s	RES, ADJ, METAL 5K
RV25	1-230-839-11	s	RES, ADJ, METAL 500
RV26	1-230-839-11	s	RES, ADJ, METAL 500
RV27	1-230-839-11	s	RES, ADJ, METAL 500
RV28	1-230-839-11	s	RES, ADJ, METAL 500
RV29	1-230-841-11	s	RES, ADJ, METAL 2K
RV30	1-230-842-11	s	RES, ADJ, METAL 5K
RV31	1-230-838-11	s	RES, ADJ, METAL 200
RV32	1-230-843-11	s	RES, ADJ, METAL 10K
RV34	1-230-844-11	s	RES, ADJ, METAL 20K
RV35	1-230-839-11	s	RES, ADJ, METAL 500
RV36	1-230-839-11	s	RES, ADJ, METAL 500
RV37	1-230-839-11	s	RES, ADJ, METAL 500
RV39	1-230-842-11	s	RES, ADJ, METAL 5K
RV40	1-230-844-11	s	RES, ADJ, METAL 20K
RV41	1-230-836-11	s	RES, ADJ, METAL 50
TH1	1-800-202-XX	s	THERMISTOR S-10K
X1	1-527-933-00	s	CRYSTAL 7.682000MHz
X2	1-527-935-00	s	CRYSTAL 8.900000MHz

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

VO-16 BOARD, BVH-3000PS/3100PS

Board No.
1-621-101-13
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6011-115-A	o	COMPLETE BCP, VO-16
2pcs	3-714-634-01	o	LEVER, PC BOARD
2pcs	3-714-691-01	o	PIN, SPRING
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-948-01	s	SCREW +PSW 3X8
2pcs	7-685-133-19	s	SCREW +BTP 2.6X6 TYPE2 N-S
C26	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C81	1-131-374-00	s	CAP, TANT 33uF 10% 16V
C105	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C106	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C107	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C108	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C109	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C110	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C111	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C112	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C113	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C114	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C115	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C116	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C117	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C126	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C135	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C136	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C137	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C138	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C140	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C141	1-107-161-00	s	CAP, MICA 39PF 5% 500V
C142	1-109-558-00	s	CAP, MICA 750PF 5% 100V
C143	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C147	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C148	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C149	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C150	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C151	1-161-462-00	s	CAP, CERAMIC 180PF 5% 50V
C152	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C153	1-130-473-00	s	CAP, MYLAR 0.0015uF 5% 50V
C155	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C156	1-161-469-00	s	CAP, CERAMIC 680PF 5% 50V
C157	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C159	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C162	1-161-463-00	s	CAP, CERAMIC 220PF 5% 50V
C163	1-161-467-00	s	CAP, CERAMIC 470PF 5% 50V
C164	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C165	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C166	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C167	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C168	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C169	1-130-478-00	s	CAP, MYLAR 0.0039uF 5% 50V
C170	1-130-474-00	s	CAP, MYLAR 0.0033uF 5% 50V
C171	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C172	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C174	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C175	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C176	1-130-471-00	s	CAP, MYLAR 0.001uF 5% 50V
C177	1-130-478-00	s	CAP, MYLAR 0.0039uF 5% 50V

Ref. No. or Q'ty	Part No.	SP	Description
C178	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C179	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C180	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C181	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C182	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C183	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C184	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C185	1-124-522-11	s	CAP, ELECT 270uF 20% 16V
C233	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C239	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C240	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C241	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C242	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C243	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C244	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C245	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C246	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C247	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C248	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C249	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C250	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C251	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C252	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C253	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C257	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C258	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C259	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C260	1-130-479-00	s	CAP, MYLAR 0.0047uF 5% 50V
C261	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C262	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C263	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C264	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C265	1-161-462-00	s	CAP, CERAMIC 180PF 5% 50V
C266	1-161-462-00	s	CAP, CERAMIC 180PF 5% 50V
C267	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C268	1-107-169-00	s	CAP, MICA 100PF 5% 500V
C269	1-161-466-00	s	CAP, CERAMIC 390PF 5% 50V
C270	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C271	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C272	1-107-162-00	s	CAP, MICA 43PF 5% 500V
C273	1-107-162-00	s	CAP, MICA 43PF 5% 500V
C274	1-109-546-00	s	CAP, MICA 300PF 5% 100V
C278	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C327	1-124-927-00	s	CAP, ELECT 47 20% 100V
C328	1-124-927-00	s	CAP, ELECT 47 20% 100V
C340	1-124-927-00	s	CAP, ELECT 47 20% 100V
C342	1-124-927-00	s	CAP, ELECT 47 20% 100V
C398	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C399	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C415	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C416	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C417	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C418	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C419	1-124-445-00	s	CAP, ELECT 100uF 20% 16V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
C420	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C421	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C422	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C423	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C424	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C425	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C426	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C427	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C428	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C429	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C430	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C431	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C432	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C433	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C434	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C439	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C440	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C441	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C442	1-102-074-00	s	CAP, CERAMIC 0.001uF 10% 50V
C444	1-161-457-00	s	CAP, CERAMIC 68PF 5% 50V
C446	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C448	1-161-458-00	s	CAP, CERAMIC 82PF 5% 50V
C453	1-109-554-00	s	CAP, MICA 510PF 5% 100V
C455	1-101-004-00	s	CAP, CERAMIC 0.01uF 50V
C460	1-161-460-00	s	CAP, CERAMIC 120PF 5% 50V
C461	1-161-463-00	s	CAP, CERAMIC 220PF 5% 50V
C462	1-130-485-00	s	CAP, MYLAR 0.015uF 5% 50V
C463	1-161-463-00	s	CAP, CERAMIC 220PF 5% 50V
C464	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C467	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C468	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C469	1-102-106-00	s	CAP, CERAMIC 100PF 10% 50V
C471	1-107-163-00	s	CAP, MICA 47PF 5% 500V
C472	1-161-464-00	s	CAP, CERAMIC 270PF 5% 50V
C473	1-161-464-00	s	CAP, CERAMIC 270PF 5% 50V
C475	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C478	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C479	1-109-783-00	s	CAP, MICA 0.001uF 1% 100V
C481	1-123-321-00	s	CAP, ELECT 220uF 20% 16V
C483	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C484	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C486	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C487	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C488	1-130-477-00	s	CAP, MYLAR 0.0033uF 5% 50V
C489	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C510	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C515	1-124-767-00	s	CAP, ELECT, NONPOLAR 2.2uF 20% 50V
C520	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C521	1-124-499-11	s	CAP, ELECT, NONPOLAR 1uF 20% 50V
C526	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C527	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C530	1-124-927-11	s	CAP, ELECT 4.7uF 20% 50V
C532	1-124-445-00	s	CAP, ELECT 100uF 20% 16V
C535	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C536	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C538	1-131-347-00	s	CAP, TANT 1uF 10% 35V
C540	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V

Ref. No. or Q'ty	Part No.	SP	Description
C541	1-161-461-00	s	CAP, CERAMIC 150PF 10% 50V
C543	1-102-114-00	s	CAP, CERAMIC 470PF 10% 50V
C545	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C546	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C547	1-161-465-00	s	CAP, CERAMIC 330PF 5% 50V
C549	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C550	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C552	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C553	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C554	1-161-485-00	s	CAP, CERAMIC 0.1uF 50%
C555	1-161-485-00	s	CAP, CERAMIC 0.1uF 50V
C556	1-124-767-00	s	CAP, ELECT NONPOLAR 2.2uF 20% 50V
C557	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C558	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C559	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C560	1-130-483-00	s	CAP, MYLAR 0.01uF 5% 50V
C561	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C562	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C563	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C564	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C565	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C567	1-130-472-00	s	CAP, MYLAR 0.0012uF 5% 50V
C568	1-161-463-00	s	CAP, CERAMIC 220PF 10% 50V
C570	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C571	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C572	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C577	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C600	1-130-475-11	s	CAP, MYLAR 0.0022uF 5% 50V
C701	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C702	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C703	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C704	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C705	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C706	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C707	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C709	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C712	1-162-765-11	s	CAP, CERAMIC 1000PF 5% 50V
C851	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C852	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C853	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
C854	1-101-005-00	s	CAP, CERAMIC 0.022uF 50V
CN303	1-506-748-11	s	RECEP, DIN 96P MALE
CN304	1-506-748-11	s	RECEP, DIN 96P MALE
CT1	1-141-254-00	s	CAP, TRIMMER 30PF
CT2	1-141-260-00	s	CAP, TRIMMER 50PF
CT3	1-141-304-21	s	CAP, TRIMMER 10PF
D1	8-719-101-97	s	DIODE 1SS97-1
D2	8-719-101-97	s	DIODE 1SS97-1
D3	8-719-911-19	s	DIODE 1SS119
D4	8-719-911-19	s	DIODE 1SS119
D6	8-719-915-30	s	DIODE FC53M
D7	8-719-915-30	s	DIODE FC53M
D8	8-719-911-19	s	DIODE 1SS119
D9	8-719-911-19	s	DIODE 1SS119
D10	8-719-911-19	s	DIODE 1SS119
D12	8-719-109-91	s	DIODE RD6.2ESB
D14	8-719-911-19	s	DIODE 1SS119
D15	8-719-911-19	s	DIODE 1SS119

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
D18	8-719-109-79	s	DIODE RD4.7ESB
D19	8-719-101-97	s	DIODE 1SS97-1
D21	8-719-109-79	s	DIODE RD4.7ESB
D22	8-719-109-87	s	DIODE RD5.6ESB
D23	8-719-911-19	s	DIODE 1SS119
D24	8-719-911-19	s	DIODE 1SS119
D25	8-719-911-19	s	DIODE 1SS119
D26	8-719-911-19	s	DIODE 1SS119
D27	8-719-110-15	s	DIODE RD10ESB
DL1	1-415-479-11	s	DELAY LINE 28nS
DL2	1-415-479-11	s	DELAY LINE 28nS
FB5	1-535-178-00	s	FERRITE BEAD
FB6	1-535-178-00	s	FERRITE BEAD
FL1	1-235-961-12	s	FILTER, LOW-PASS
FL2	1-235-961-12	s	FILTER, LOW-PASS
FL3	1-231-621-00	s	FILTER, LOW-PASS
IC1	8-749-901-03	s	IC BX-366AL
IC2	8-749-900-63	s	IC BX-365AL
IC3	8-720-002-91	s	TRANSISTOR TX-429M
IC4	8-741-124-41	s	IC BX-1244A
IC5	8-749-900-63	s	IC BX-365AL
IC6	8-749-900-63	s	IC BX-365AL
IC7	8-759-990-82	s	IC TL082CP
IC8	8-752-015-81	s	IC CX20158
IC9	8-752-015-81	s	IC CX20158
IC10	8-759-900-00	s	IC SN74LS00N
IC11	8-759-001-16	s	IC MC10116L
IC12	8-759-301-31	s	IC HD10131
IC13	8-759-001-16	s	IC MC10116L
IC14	8-743-931-10	s	IC BX-3931A
IC15	8-759-942-65	s	IC SN74265N
IC16	8-759-900-08	s	IC SN74LS08N
IC17	8-741-130-60	s	IC BX-1306
IC18	8-741-130-60	s	IC BX-1306
IC19	8-741-130-60	s	IC BX-1306
IC20	8-759-990-82	s	IC TL082CP
IC21	8-759-112-13	s	IC UPC1663C
IC22	8-759-112-13	s	IC UPC1663C
IC23	8-759-990-82	s	IC TL082CP
IC24	8-759-015-95	s	IC MC1595L
IC25	8-759-001-16	s	IC MC10116L
IC26	8-759-001-16	s	IC MC10116L
IC27	8-759-301-17	s	IC HD10117
IC29	8-741-130-60	s	IC BX-1306
IC31	8-759-906-85	s	IC AM685DL
IC32	8-759-001-16	s	IC MC10116L
IC33	8-759-301-04	s	IC HD10104
IC34	8-759-990-82	s	IC TL082CP
IC35	8-752-015-81	s	IC CX20158
IC36	8-759-990-82	s	IC TL082CP
IC37	8-749-900-63	s	IC BX-365AL
IC38	8-741-124-41	s	IC BX-1244A
IC39	8-749-901-03	s	IC BX-366AL
IC40	8-749-901-03	s	IC BX-366AL
IC41	8-749-901-03	s	IC BX-366AL
IC42	8-759-990-82	s	IC TL082CP
IC43	8-759-201-47	s	IC TA7357AP
IC44	8-759-902-21	s	IC SN74LS221N
IC45	8-759-902-21	s	IC SN74LS221N
IC46	8-759-001-16	s	IC MC10116L
IC47	8-759-301-17	s	IC HD10117
IC48	8-759-001-16	s	IC MC10116L
IC49	8-759-301-04	s	IC HD10104
IC50	8-759-990-82	s	IC TL082CP
IC51	8-759-906-01	s	IC TL601CP
IC52	8-741-124-41	s	IC BX-1244A
IC53	8-759-990-82	s	IC TL082CP
IC54	8-759-906-01	s	IC TL601CP
IC55	8-759-906-07	s	IC TL607CP
IC56	8-759-990-84	s	IC TL084CN
IC57	8-759-990-82	s	IC TL082CP
IC58	8-759-902-21	s	IC SN74LS221N
IC59	8-759-900-00	s	IC SN74LS00N
IC60	8-759-902-21	s	IC SN74LS221N
IC61	8-759-951-07	s	IC SN75107AN
IC62	8-759-901-23	s	IC SN74LS123N
IC63	8-759-900-00	s	IC SN74LS00N
IC64	8-759-901-23	s	IC SN74LS123N
IC65	8-759-901-23	s	IC SN74LS123N
IC66	8-759-942-65	s	IC SN74265N
IC67	8-759-990-82	s	IC TL082CP
IC68	8-752-015-81	s	IC CX20158
IC69	8-759-201-47	s	IC TA7357AP
IC70	8-759-902-21	s	IC SN74LS221N
IC71	8-759-902-21	s	IC SN74LS221N
IC72	8-759-900-00	s	IC SN74LS00N
IC73	8-759-902-21	s	IC SN74LS221N
IC74	8-759-990-82	s	IC TL082CP
IC75	8-759-906-07	s	IC TL607CP
IC76	8-759-951-07	s	IC SN75107AN
IC77	8-759-014-96	s	IC MC1496P
IC78	8-759-900-00	s	IC SN74LS00N
IC79	8-759-990-82	s	IC TL082CP
IC80	8-759-926-10	s	IC TL610CP
IC81	8-759-901-23	s	IC SN74LS123N
IC82	8-759-951-07	s	IC SN75107AN
IC85	8-759-900-00	s	IC SN74LS00N
IC87	8-759-900-05	s	IC SN74LS05N
IC88	8-759-951-07	s	IC SN75107AN
IC89	8-759-900-02	s	IC SN74LS02N
IC90	8-759-902-21	s	IC SN74LS221N
IC91	8-759-900-74	s	IC SN74LS74AN
IC92	8-759-901-63	s	IC SN74LS163AN
IC93	8-759-901-51	s	IC SN74LS151N
IC94	8-759-900-00	s	IC SN74LS00N
IC95	8-759-902-21	s	IC SN74LS221N
IC96	8-759-902-21	s	IC SN74LS221N
IC97	8-759-900-04	s	IC SN74LS04N
IC98	8-759-900-04	s	IC SN74LS04N
IC99	8-759-938-68	s	IC CXD1095Q
IC101	8-759-708-05	s	IC NJM78L05A
IC102	8-759-700-65	s	IC NJM79L05A
IC103	8-759-906-07	s	IC TL607CP
IC104	8-759-990-82	s	IC TL082CP
IC105	8-759-900-08	s	IC SN74LS08N
IC106	8-759-901-09	s	IC SN74LS109AN

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VO-16 BOARD, BVH-3000PS/3100PS) Board No. 1-621-101-13 & Higher

Ref. No. or Q'ty	Part No.	SP	Description
IC107	8-759-708-05	s	IC NJM78L05A
IC108	8-759-700-65	s	IC NJM79L05A
IC109	8-759-708-05	s	IC NJM78L05A
IC110	8-759-700-65	s	IC NJM79L05A
IC111	8-759-900-00	s	IC SN74LS00N
IC112	8-759-974-07	s	IC SN7407N
IC113	8-759-974-07	s	IC SN7407N
IC114	8-759-708-05	s	IC NJM78L05A
IC115	8-759-700-65	s	IC NJM79L05A
IC116	8-759-708-05	s	IC NJM78L05A
IC117	8-759-906-07	s	IC TL607CP
IC118	8-759-906-07	s	IC TL607CP
IC121	8-759-990-82	s	IC TL082CP
IC122	8-759-708-05	s	IC NJM78L05A
IC123	8-759-301-31	s	IC HD10131
IC124	8-759-700-65	s	IC NJM79L05A
IC125	8-759-901-23	s	IC SN74LS123N
IC126	8-759-902-21	s	IC SN74LS221N
IC127	8-759-900-00	s	IC SN74LS00N
IC128	8-759-902-21	s	IC SN74LS221N
IC129	8-759-900-00	s	IC SN74LS00N
IC130	8-759-901-23	s	IC SN74LS123N
IC131	8-759-202-11	s	IC TC74HC00P
IC132	8-759-900-00	s	IC SN74LS00N
IC133	8-759-906-07	s	IC TL607CP
IC134	8-759-906-07	s	IC TL607CP
IC135	8-759-990-82	s	IC TL082CP
IC136	8-759-990-84	s	IC TL084CN
IC137	8-759-700-65	s	IC NJM79L05A
IC138	8-759-951-07	s	IC SN75107AN
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
L3	1-421-370-00	s	COIL, CHOKE
L4	1-421-370-00	s	COIL, CHOKE
L5	1-408-427-00	s	INDUCTOR 330UH 5%
L6	1-408-405-00	s	INDUCTOR 4.7UH 5%
L7	1-408-405-00	s	INDUCTOR 4.7UH 5%
L8	1-408-416-00	s	INDUCTOR 39UH 5%
L9	1-408-414-00	s	INDUCTOR 27UH 5%
L10	1-408-416-00	s	INDUCTOR 39UH 5%
L11	1-408-416-00	s	INDUCTOR 39UH 5%
L12	1-408-420-00	s	INDUCTOR 82UH 5%
L13	1-408-429-00	s	INDUCTOR 470UH 5%
L14	1-408-416-00	s	INDUCTOR 39UH 5%
L15	1-408-416-00	s	INDUCTOR 39UH 5%
L16	1-408-407-00	s	INDUCTOR 6.8UH 5%
L17	1-408-426-00	s	INDUCTOR 270UH 5%
L18	1-408-426-00	s	INDUCTOR 270UH 5%
L19	1-410-959-11	s	INDUCTOR 3.3UH 5%
L20	1-408-402-00	s	INDUCTOR 2.7UH 5%
L21	1-408-405-00	s	INDUCTOR 4.7UH 5%
L22	1-410-960-11	s	INDUCTOR 6.8UH 5%
L23	1-410-960-11	s	INDUCTOR 6.8UH 5%
L25	1-408-407-00	s	INDUCTOR 6.8UH 5%
Q1	8-729-679-82	s	TRANSISTOR 2SA798
Q2	8-729-302-07	s	TRANSISTOR 2SC2512
Q3	8-729-302-07	s	TRANSISTOR 2SC2512

(VO-16 BOARD, BVH-3000PS/3100PS) Board No. 1-621-101-13 & Higher

Ref. No. or Q'ty	Part No.	SP	Description
Q4	8-729-302-07	s	TRANSISTOR 2SC2512
Q5	8-729-302-07	s	TRANSISTOR 2SC2512
Q6	8-729-100-88	s	TRANSISTOR 2SA1223
Q7	8-729-100-88	s	TRANSISTOR 2SA1223
Q8	8-729-302-07	s	TRANSISTOR 2SC2512
Q9	8-729-117-33	s	TRANSISTOR 2SC1733
Q10	8-729-302-07	s	TRANSISTOR 2SC2512
Q11	8-729-302-07	s	TRANSISTOR 2SC2512
Q12	8-729-302-07	s	TRANSISTOR 2SC2512
Q13	8-729-302-07	s	TRANSISTOR 2SC2512
Q14	8-729-302-07	s	TRANSISTOR 2SC2512
Q15	8-729-302-07	s	TRANSISTOR 2SC2512
Q16	8-729-302-07	s	TRANSISTOR 2SC2512
Q17	8-729-302-07	s	TRANSISTOR 2SC2512
Q18	8-729-302-07	s	TRANSISTOR 2SC2512
Q19	8-729-302-07	s	TRANSISTOR 2SC2512
Q21	8-729-112-06	s	TRANSISTOR 2SA1206
Q26	8-729-302-07	s	TRANSISTOR 2SC2512
Q27	8-729-302-07	s	TRANSISTOR 2SC2512
Q28	8-729-302-07	s	TRANSISTOR 2SC2512
Q29	8-729-112-06	s	TRANSISTOR 2SA1206
Q30	8-729-112-06	s	TRANSISTOR 2SA1206
Q31	8-729-302-07	s	TRANSISTOR 2SC2512
Q32	8-729-302-07	s	TRANSISTOR 2SC2512
Q33	8-729-302-07	s	TRANSISTOR 2SC2512
Q34	8-729-302-07	s	TRANSISTOR 2SC2512
Q35	8-729-302-07	s	TRANSISTOR 2SC2512
Q36	8-729-302-07	s	TRANSISTOR 2SC2512
Q37	8-729-302-07	s	TRANSISTOR 2SC2512
Q38	8-729-112-06	s	TRANSISTOR 2SA1206
Q39	8-729-112-06	s	TRANSISTOR 2SA1206
Q40	8-729-302-07	s	TRANSISTOR 2SC2512
Q41	8-729-112-06	s	TRANSISTOR 2SA1206
Q42	8-729-302-07	s	TRANSISTOR 2SC2512
Q43	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q44	8-729-302-07	s	TRANSISTOR 2SC2512
Q45	8-729-900-61	s	TRANSISTOR DTA114ES
Q46	8-729-302-07	s	TRANSISTOR 2SC2512
Q47	8-729-302-07	s	TRANSISTOR 2SC2512
Q53	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q54	8-729-105-71	s	TRANSISTOR 2SK523-K2
Q55	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q57	8-729-112-06	s	TRANSISTOR 2SA1206
Q58	8-729-112-06	s	TRANSISTOR 2SA1206
Q59	8-729-302-07	s	TRANSISTOR 2SC2512
Q60	8-729-302-07	s	TRANSISTOR 2SC2512
Q61	8-729-302-07	s	TRANSISTOR 2SC2512
Q62	8-729-302-07	s	TRANSISTOR 2SC2512
Q63	8-729-112-06	s	TRANSISTOR 2SA1206
Q64	8-769-162-00	s	TRANSISTOR 2SK152-2
Q65	8-729-245-82	s	TRANSISTOR 2SC2458-Y
Q66	8-729-611-53	s	TRANSISTOR 2SA1115-F
Q67	8-729-611-53	s	TRANSISTOR 2SA1115-F
R1	1-215-390-00	s	RES, METAL 51 1% 1/6W
R3	1-215-414-00	s	RES, METAL 510 1% 1/6W
R4	1-215-400-00	s	RES, METAL 130 1% 1/6W
R8	1-215-401-11	s	RES, METAL 150 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VO-16 BOARD, BVH-3000PS/3100PS) Board No. 1-621-101-13 & Higher

Ref. No. or Q'ty	Part No.	SP	Description
R9	1-215-417-00	s	RES, METAL 680 1% 1/6W
R17	1-249-401-11	s	RES, CARBON 47 5% 1/4W
R18	1-215-409-00	s	RES, METAL 330 1% 1/6W
R19	1-215-401-11	s	RES, METAL 150 1% 1/6W
R23	1-215-409-00	s	RES, METAL 330 1% 1/6W
R24	1-215-409-00	s	RES, METAL 330 1% 1/6W
R32	1-215-401-11	s	RES, METAL 150 1% 1/6W
R34	1-215-390-00	s	RES, METAL 51 1% 1/6W
R37	1-215-413-00	s	RES, METAL 470 1% 1/6W
R38	1-215-385-00	s	RES, METAL 33 1% 1/6W
R39	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R40	1-215-380-00	s	RES, METAL 20 1% 1/6W
R43	1-215-416-00	s	RES, METAL 620 1% 1/6W
R48	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R49	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R50	1-215-413-00	s	RES, METAL 470 1% 1/6W
R51	1-215-413-00	s	RES, METAL 470 1% 1/6W
R56	1-215-395-00	s	RES, METAL 82 1% 1/6W
R57	1-215-395-00	s	RES, METAL 82 1% 1/6W
R58	1-215-400-00	s	RES, METAL 130 1% 1/6W
R59	1-215-417-00	s	RES, METAL 680 1% 1/6W
R60	1-215-417-00	s	RES, METAL 680 1% 1/6W
R71	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R72	1-215-409-00	s	RES, METAL 330 1% 1/6W
R73	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R74	1-215-408-00	s	RES, METAL 300 1% 1/6W
R75	1-215-401-11	s	RES, METAL 150 1% 1/6W
R76	1-215-428-00	s	RES, METAL 2K 1% 1/6W
R79	1-215-412-00	s	RES, METAL 430 1% 1/6W
R80	1-215-405-00	s	RES, METAL 220 1% 1/6W
R95	1-215-418-00	s	RES, METAL 750 1% 1/6W
R106	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R107	1-215-467-00	s	RES, METAL 82K 1% 1/6W
R108	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R109	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R110	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R122	1-215-408-00	s	RES, METAL 300 1% 1/6W
R125	1-215-401-11	s	RES, METAL 150 1% 1/6W
R126	1-215-405-00	s	RES, METAL 220 1% 1/6W
R127	1-215-405-00	s	RES, METAL 220 1% 1/6W
R128	1-215-417-00	s	RES, METAL 680 1% 1/6W
R129	1-215-417-00	s	RES, METAL 680 1% 1/6W
R134	1-215-417-00	s	RES, METAL 680 1% 1/6W
R135	1-215-417-00	s	RES, METAL 680 1% 1/6W
R136	1-215-417-00	s	RES, METAL 680 1% 1/6W
R137	1-215-417-00	s	RES, METAL 680 1% 1/6W
R138	1-215-409-00	s	RES, METAL 330 1% 1/6W
R139	1-215-409-00	s	RES, METAL 330 1% 1/6W
R140	1-215-417-00	s	RES, METAL 680 1% 1/6W
R141	1-215-417-00	s	RES, METAL 680 1% 1/6W
R142	1-215-409-00	s	RES, METAL 330 1% 1/6W
R143	1-215-409-00	s	RES, METAL 330 1% 1/6W
R144	1-215-417-00	s	RES, METAL 680 1% 1/6W
R145	1-215-417-00	s	RES, METAL 680 1% 1/6W
R146	1-215-417-00	s	RES, METAL 680 1% 1/6W
R147	1-215-417-00	s	RES, METAL 680 1% 1/6W
R148	1-215-413-00	s	RES, METAL 470 1% 1/6W
R149	1-215-413-00	s	RES, METAL 470 1% 1/6W
R155	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R156	1-215-434-00	s	RES, METAL 3.6K 1% 1/6W
R163	1-215-408-00	s	RES, METAL 300 1% 1/6W
R164	1-215-415-00	s	RES, METAL 560 1% 1/6W
R165	1-215-415-00	s	RES, METAL 560 1% 1/6W
R166	1-215-446-00	s	RES, METAL 11K 1% 1/6W
R184	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R185	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R190	1-215-397-00	s	RES, METAL 100 1% 1/6W
R192	1-215-401-11	s	RES, METAL 150 1% 1/6W
R193	1-215-401-11	s	RES, METAL 150 1% 1/6W
R214	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R215	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R233	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R234	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R235	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R261	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R264	1-215-391-00	s	RES, METAL 56 1% 1/6W
R268	1-215-391-00	s	RES, METAL 56 1% 1/6W
R272	1-215-391-00	s	RES, METAL 56 1% 1/6W
R276	1-215-391-00	s	RES, METAL 56 1% 1/6W
R286	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R287	1-215-387-00	s	RES, METAL 39 1% 1/6W
R288	1-215-387-00	s	RES, METAL 39 1% 1/6W
R289	1-215-417-00	s	RES, METAL 680 1% 1/6W
R290	1-215-417-00	s	RES, METAL 680 1% 1/6W
R291	1-215-417-00	s	RES, METAL 680 1% 1/6W
R292	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R296	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R309	1-215-401-31	s	RES, METAL 150 1% 1/6W
R340	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R341	1-215-455-00	s	RES, METAL 27K 1% 1/6W
R345	1-215-411-00	s	RES, METAL 390 1% 1/6W
R349	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R350	1-215-401-11	s	RES, METAL 150 1% 1/6W
R365	1-215-413-00	s	RES, METAL 470 1% 1/6W
R366	1-215-413-00	s	RES, METAL 470 1% 1/6W
R372	1-215-398-00	s	RES, METAL 110 1% 1/6W
R389	1-215-414-00	s	RES, METAL 510 1% 1/6W
R392	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R393	1-215-438-00	s	RES, METAL 5.1K 1% 1/6W
R415	1-215-380-00	s	RES, METAL 20 1% 1/6W
R418	1-215-411-00	s	RES, METAL 390 1% 1/6W
R423	1-215-458-00	s	RES, METAL 36K 1% 1/6W
R433	1-215-413-00	s	RES, METAL 470 1% 1/6W
R434	1-215-413-00	s	RES, METAL 470 1% 1/6W
R439	1-215-390-00	s	RES, METAL 51 1% 1/6W
R440	1-215-390-00	s	RES, METAL 51 1% 1/6W
R441	1-215-397-00	s	RES, METAL 100 1% 1/6W
R442	1-215-401-11	s	RES, METAL 150 1% 1/6W
R443	1-215-401-11	s	RES, METAL 150 1% 1/6W
R444	1-215-401-11	s	RES, METAL 150 1% 1/6W
R445	1-215-401-11	s	RES, METAL 150 1% 1/6W
R446	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R447	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R448	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R449	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R450	1-215-445-00	s	RES, METAL 10K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
R451	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R452	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R453	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R454	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R455	1-215-443-00	s	RES, METAL 8.2K 1% 1/6W
R456	1-215-405-00	s	RES, METAL 220 1% 1/6W
R457	1-215-405-00	s	RES, METAL 220 1% 1/6W
R459	1-215-390-00	s	RES, METAL 51 1% 1/6W
R460	1-215-390-00	s	RES, METAL 51 1% 1/6W
R461	1-215-397-00	s	RES, METAL 100 1% 1/6W
R462	1-215-390-00	s	RES, METAL 51 1% 1/6W
R463	1-215-390-00	s	RES, METAL 51 1% 1/6W
R464	1-215-397-00	s	RES, METAL 100 1% 1/6W
R465	1-215-390-00	s	RES, METAL 51 1% 1/6W
R466	1-215-390-00	s	RES, METAL 51 1% 1/6W
R467	1-215-397-00	s	RES, METAL 100 1% 1/6W
R468	1-215-385-00	s	RES, METAL 33 1% 1/6W
R469	1-215-385-00	s	RES, METAL 33 1% 1/6W
R470	1-215-397-00	s	RES, METAL 100 1% 1/6W
R471	1-215-397-00	s	RES, METAL 100 1% 1/6W
R472	1-215-390-00	s	RES, METAL 51 1% 1/6W
R473	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R474	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R475	1-215-401-11	s	RES, METAL 150 1% 1/6W
R476	1-215-401-11	s	RES, METAL 150 1% 1/6W
R477	1-215-385-00	s	RES, METAL 33 1% 1/6W
R478	1-215-385-00	s	RES, METAL 33 1% 1/6W
R479	1-215-415-00	s	RES, METAL 560 1% 1/6W
R480	1-215-427-00	s	RES, METAL 1.8K 1% 1/6W
R482	1-215-401-11	s	RES, METAL 150 1% 1/6W
R483	1-215-397-00	s	RES, METAL 100 1% 1/6W
R484	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R485	1-215-441-00	s	RES, METAL 6.8K 1% 1/6W
R486	1-215-442-00	s	RES, METAL 7.5K 1% 1/6W
R487	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R488	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R489	1-215-397-00	s	RES, METAL 100 1% 1/6W
R490	1-215-397-00	s	RES, METAL 100 1% 1/6W
R491	1-215-397-00	s	RES, METAL 100 1% 1/6W
R492	1-215-397-00	s	RES, METAL 100 1% 1/6W
R493	1-215-419-00	s	RES, METAL 820 1% 1/6W
R495	1-215-373-31	s	RES, METAL 10 1% 1/6W
R496	1-215-423-00	s	RES, METAL 1.2K 1% 1/6W
R497	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R498	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R499	1-215-431-00	s	RES, METAL 2.7K 1% 1/6W
R500	1-215-411-00	s	RES, METAL 390 1% 1/6W
R502	1-215-402-00	s	RES, METAL 160 1% 1/6W
R503	1-215-381-00	s	RES, METAL 22 1% 1/6W
R507	1-215-411-00	s	RES, METAL 680 1% 1/6W
R508	1-215-417-00	s	RES, METAL 680 1% 1/6W
R509	1-215-390-00	s	RES, METAL 51 1% 1/6W
R510	1-215-390-00	s	RES, METAL 51 1% 1/6W
R511	1-215-397-00	s	RES, METAL 100 1% 1/6W
R516	1-215-417-00	s	RES, METAL 680 1% 1/6W
R517	1-215-417-00	s	RES, METAL 680 1% 1/6W
R519	1-215-405-00	s	RES, METAL 220 1% 1/6W

Ref. No. or Q'ty	Part No.	SP	Description
R520	1-215-405-00	s	RES, METAL 220 1% 1/6W
R521	1-215-390-00	s	RES, METAL 51 1% 1/6W
R522	1-215-390-00	s	RES, METAL 51 1% 1/6W
R523	1-215-397-00	s	RES, METAL 100 1% 1/6W
R530	1-215-421-00	s	RES, METAL 1K 1% 1/6W
R531	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R532	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R533	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R534	1-215-429-00	s	RES, METAL 2.2K 1% 1/6W
R537	1-215-454-00	s	RES, METAL 24K 1% 1/6W
R539	1-215-402-00	s	RES, METAL 160 1% 1/6W
R547	1-215-388-00	s	RES, METAL 43 1% 1/6W
R554	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R555	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R564	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R567	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R568	1-215-415-00	s	RES, METAL 560 1% 1/6W
R569	1-215-415-00	s	RES, METAL 560 1% 1/6W
R570	1-215-397-00	s	RES, METAL 100 1% 1/6W
R572	1-215-377-00	s	RES, METAL 15 1% 1/6W
R573	1-215-404-00	s	RES, METAL 200 1% 1/6W
R574	1-215-439-00	s	RES, METAL 5.6K 1% 1/6W
R575	1-215-424-00	s	RES, METAL 1.3K 1% 1/6W
R576	1-215-401-11	s	RES, METAL 150 1% 1/6W
R577	1-215-425-00	s	RES, METAL 1.5K 1% 1/6W
R578	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R583	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R584	1-215-469-00	s	RES, METAL 100K 1% 1/6W
R585	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R587	1-215-437-00	s	RES, METAL 4.7K 1% 1/6W
R588	1-215-435-00	s	RES, METAL 3.9K 1% 1/6W
R591	1-215-397-00	s	RES, METAL 100 1% 1/6W
R594	1-215-463-00	s	RES, METAL 56K 1% 1/6W
R596	1-215-453-00	s	RES, METAL 22K 1% 1/6W
R608	1-215-377-00	s	RES, METAL 15 1% 1/6W
R609	1-215-377-00	s	RES, METAL 15 1% 1/6W
R610	1-215-450-00	s	RES, METAL 16K 1% 1/6W
R611	1-215-401-11	s	RES, METAL 150 1% 1/6W
R612	1-215-401-11	s	RES, METAL 150 1% 1/6W
R615	1-215-493-00	s	RES, METAL 1M 1% 1/6W
R618	1-215-399-00	s	RES, METAL 120 1% 1/6W
R621	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R622	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R623	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R624	1-215-431-00	s	RES, METAL 2.2K 1% 1/6W
R625	1-215-409-00	s	RES, METAL 330 1% 1/6W
R631	1-215-431-00	s	RES, METAL 2.2K 1% 1/6W
R632	1-215-409-00	s	RES, METAL 330 1% 1/6W
R638	1-215-431-00	s	RES, METAL 2.2K 1% 1/6W
R639	1-215-431-00	s	RES, METAL 2.2K 1% 1/6W
R640	1-215-397-00	s	RES, METAL 100 1% 1/6W
R641	1-215-432-00	s	RES, METAL 3K 1% 1/6W
R642	1-215-447-00	s	RES, METAL 12K 1% 1/6W
R643	1-215-452-00	s	RES, METAL 20K 1% 1/6W
R648	1-215-448-00	s	RES, METAL 13K 1% 1/6W
R652	1-215-445-00	s	RES, METAL 10K 1% 1/6W
R654	1-215-380-00	s	RES, METAL 22 1% 1/6W
R655	1-215-448-00	s	RES, METAL 13K 1% 1/6W

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VO-16 BOARD, BVH-3000PS/3100PS)

Board No.
1-621-101-13
& Higher

Ref. No. or Q'ty	Part No.	SP	Description
R656	1-215-449-00	s	RES, METAL 15K 1% 1/6W
R657	1-215-397-00	s	RES, METAL 100 1% 1/6W
R658	1-215-397-00	s	RES, METAL 100 1% 1/6W
R705	1-215-383-00	s	RES, METAL 27 1% 1/6W
R706	1-215-383-00	s	RES, METAL 27 1% 1/6W
R707	1-215-403-00	s	RES, METAL 180 1% 1/6W
R708	1-215-403-00	s	RES, METAL 180 1% 1/6W
RV1	1-230-841-11	s	RES, ADJ, METAL 2K
RV2	1-230-837-11	s	RES, ADJ, METAL 100
RV3	1-230-838-11	s	RES, ADJ, METAL 200
RV4	1-230-837-11	s	RES, ADJ, METAL 100
RV5	1-230-843-11	s	RES, ADJ, METAL 10K
RV6	1-230-838-11	s	RES, ADJ, METAL 200
RV7	1-230-739-21	s	RES, VAR, CARBON 1K(B)
RV8	1-237-259-11	s	RES, ADJ, METAL 2K
RV11	1-230-843-11	s	RES, ADJ, METAL 10K
RV12	1-230-843-11	s	RES, ADJ, METAL 10K
RV13	1-237-254-11	s	RES, ADJ, METAL 50
RV14	1-230-838-11	s	RES, ADJ, METAL 200
RV15	1-230-840-11	s	RES, ADJ, METAL 1K
RV16	1-230-838-11	s	RES, ADJ, METAL 200
RV17	1-230-839-11	s	RES, ADJ, METAL 500
RV18	1-230-844-11	s	RES, ADJ, METAL 20K
RV19	1-230-839-11	s	RES, ADJ, METAL 500
RV20	1-230-839-11	s	RES, ADJ, METAL 500
RV21	1-230-839-11	s	RES, ADJ, METAL 500
RV22	1-230-839-11	s	RES, ADJ, METAL 500
RV23	1-230-740-11	s	RES, VAR, CARBON 5K(B)
RV24	1-230-842-11	s	RES, ADJ, METAL 5K
RV25	1-230-839-11	s	RES, ADJ, METAL 500
RV26	1-230-839-11	s	RES, ADJ, METAL 500
RV27	1-230-839-11	s	RES, ADJ, METAL 500
RV28	1-230-839-11	s	RES, ADJ, METAL 500
RV29	1-230-841-11	s	RES, ADJ, METAL 2K
RV30	1-230-842-11	s	RES, ADJ, METAL 5K
RV31	1-230-838-11	s	RES, ADJ, METAL 200
RV32	1-230-843-11	s	RES, ADJ, METAL 10K
RV34	1-230-844-11	s	RES, ADJ, METAL 20K
RV35	1-230-839-11	s	RES, ADJ, METAL 500
RV36	1-230-839-11	s	RES, ADJ, METAL 500
RV37	1-230-839-11	s	RES, ADJ, METAL 500
RV39	1-230-842-11	s	RES, ADJ, METAL 5K
RV41	1-230-836-11	s	RES, ADJ, METAL 50
TH1	1-800-202-XX	s	THERMISTOR S-10K
X1	1-527-933-00	s	CRYSTAL 7.682000MHz
X2	1-527-935-00	s	CRYSTAL 8.900000MHz

VR-51 BOARD, BVH-3000PS/3100PS

Ref.No. Q'ty	Part No.	SP	Description
1pc (for NTSC, PS except PS-A4)	A-6013-078-A	o	COMPLETE PCB, VR-51
1pc (for PS-A4)	A-6013-090-A	o	COMPLETE PCB, VR-51
4pcs	7-628-254-10	s	SCREW +PS 2.6X6
4pcs	7-682-947-01	s	SCREW +PSW 3X6
CN801	1-563-868-11	s	RECEP, DIN 44P FEMALE
CN802	1-563-868-11	s	RECEP, DIN 44P FEMALE
CN806 (for PS-A4) CN807 (for PS-A4)	1-560-300-00	o	RECEP, IL 3P MALE
D1	8-719-911-19	s	DIODE 1SS119
IC1	8-759-745-59	s	IC NJM4559D
IC2	8-759-745-59	s	IC NJM4559D
IC3	8-759-745-59	s	IC NJM4559D
IC4	8-759-745-60	s	IC NJM4560D
IC5	8-759-708-15	s	IC NJM78L15A
IC6	8-759-700-70	s	IC NJM79L15A
IC7	8-759-708-15	s	IC NJM78L15A
J1	1-507-552-21	s	JACK, PHONE
L1	1-421-370-00	s	COIL, CHOKE
L2	1-421-370-00	s	COIL, CHOKE
Q1	8-729-900-36	s	TRANSISTOR DTC124ES
R1	1-247-693-11	s	RES, CARBON 27 5% 1/4W
R2	1-247-693-11	s	RES, CARBON 27 5% 1/4W
R7	1-215-418-00	s	RES, METAL 750 1% 1/6W
R9	1-215-418-00	s	RES, METAL 750 1% 1/6W
R42	1-247-737-11	s	RES, CARBON 68 5% 1/2W
R50 (for PS-A4)	1-215-448-00	s	RES, METAL 13K 1% 1/6W
RV1	1-228-550-00	s	RES, VAR, CARBON 10K(A)x2
RV2	1-228-551-00	s	RES, VAR, CARBON, WITH SW 2K(A)x2
RV3	1-224-919-00	s	RES, ADJ, METAL 5K
RV4	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)
RV5	1-224-919-00	s	RES, ADJ, METAL 5K
RV6	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)
RV7	1-224-919-00	s	RES, ADJ, METAL 5K
RV8	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)
RV9	1-224-919-00	s	RES, ADJ, METAL 5K
RV10	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)
RV11	1-224-919-00	s	RES, ADJ, METAL 5K
RV12	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)
RV13	1-224-919-00	s	RES, ADJ, METAL 5K
RV14	1-230-340-11	s	RES, VAR, CARBON, WITH SW 10K(A)

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VR-51 BOARD, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
RV15	1-224-919-00	s	RES, ADJ, METAL 5K
RV16	1-230-341-11	s	RES, VAR, CARBON,
RV17	1-228-549-00	s	RES, VAR, CARBON WITH SW 10K
RV18	1-228-549-00	s	RES, VAR, CARBON WITH SW 10K
RV19 (for PS-A4) RV20 (for PS-A4)	1-224-919-00	s	RES, ADJ, METAL 5K
RY1	1-515-683-11	s	RELAY

VS-30 BOARD, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6030-078-A	o	VS-30 ASSY
1pc	A-6011-111-A	o	COMPLETE PCB, VS-30
2pcs	3-576-921-01	s	SPRING, COMPRESSION
2pcs	3-714-612-01	o	SPACER, CONTROL PANEL
2pcs	3-845-334-11	s	SCREW, ORNAMENTAL
4pcs	7-621-559-30	s	SCREW, +K 2.6x5
4pcs	7-622-207-05	s	N 2.6, TYPE 2
11pcs	7-623-415-01	s	LW 10, B
2pcs	7-623-956-41	s	WASHER 5.0 FIBER
2pcs	7-624-106-04	s	STOP RING 3.0 TYPE-E
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
4pcs	7-682-948-01	s	SCREW +PSW 3x8
2pcs	7-688-004-01	s	W4, SMALL
C4	1-124-578-11	s	CAP, ELECT 120uF 20% 16V
C8	1-124-578-11	s	CAP, ELECT 120uF 20% 16V
C9	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C12	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C13	1-124-518-11	s	CAP, ELECT 470uF 20% 6.3V
C16	1-124-566-11	s	CAP, ELECT 120uF 20% 6.3V
C18	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C21	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 50V
C28	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C29	1-124-767-00	s	CAP, ELECT, NONPOLAR 2.2uF 20% 50V
C33	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C36	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C37	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C39	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C41	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C42	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C43	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C44	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C45	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C53	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C54	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C55	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C56	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C59	1-124-224-00	s	CAP, ELECT 47uF 20% 6.3V
C60	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C61	1-124-236-00	s	CAP, ELECT 47uF 20% 16V
C69	1-130-495-00	s	CAP, MYLAR 0.1uF 5% 50V
C70	1-164-127-11	s	CAP, CERAMIC 510PF 5% 50V
C71	1-130-491-00	s	CAP, MYLAR 0.047uF 5% 50V
C73	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C77	1-130-480-00	s	CAP, MYLAR 0.0056uF 5% 50V
C90	1-124-284-00	s	CAP, ELECT, NONPOLAR 10uF 20% 16V
C91	1-162-757-11	s	CAP, CERAMIC 220PF 5% 50V
C93	1-102-110-00	s	CERAMIC 220PF 10% 50V
C94	1-102-110-00	s	CERAMIC 220PF 10% 50V
C100	1-162-806-11	s	CAP, CERAMIC 0.1uF 10% 50V
CN320	1-563-762-11	o	RECEP, DIN 20P MALE
CN321	1-563-455-11	s	RECEP, DIN 44P MALE
CP1	1-162-617-11	s	CERAMIC 0.022MF 50V
CP2	1-162-617-11	s	CERAMIC 0.022MF 50V

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VS-30 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
CP3	1-162-617-11	s	CERAMIC 0.022MF 50V
CP4	1-162-617-11	s	CERAMIC 0.022MF 50V
CP5	1-162-617-11	s	CERAMIC 0.022MF 50V
CP6	1-162-617-11	s	CERAMIC 0.022MF 50V
CP7	1-162-617-11	s	CERAMIC 0.022MF 50V
CP8	1-162-617-11	s	CERAMIC 0.022MF 50V
CP9	1-162-617-11	s	CERAMIC 0.022MF 50V
CP10	1-162-617-11	s	CERAMIC 0.022MF 50V
CP11	1-162-617-11	s	CERAMIC 0.022MF 50V
CP12	1-162-617-11	s	CERAMIC 0.022MF 50V
IC1	8-749-901-03	s	IC BX-366AL
IC2	8-749-901-03	s	IC BX-366AL
IC3	8-749-901-03	s	IC BX-366AL
IC4	8-759-900-00	s	IC SN74LS00N
IC5	8-752-015-81	s	IC CX20158
IC6	8-752-015-81	s	IC CX20158
IC7	8-752-015-81	s	IC CX20158
IC8	8-749-936-51	s	IC BX-365A
IC9	8-749-936-51	s	IC BX-365A
IC10	8-749-901-03	s	IC BX-366AL
IC11	8-752-015-81	s	IC CX20158
IC12	8-749-936-51	s	IC BX-365A
IC13	8-759-990-82	s	IC TL082CP
IC14	8-759-201-47	s	IC TA7357AP
IC15	8-759-902-21	s	IC SN74LS221N
IC16	8-741-124-41	s	IC BX-1244A
IC17	8-749-936-51	s	IC BX-365A
IC18	8-749-901-03	s	IC BX-366AL
L1	1-421-329-00	s	COIL, CHOKE
L2	1-421-329-00	s	COIL, CHOKE
L3	1-421-329-00	s	COIL, CHOKE
L4	1-421-329-00	s	COIL, CHOKE
L5	1-408-427-00	s	INDUCTOR 330UH 5%
L6	1-408-427-00	s	INDUCTOR 330UH 5%
Q1	8-729-203-21	s	TRANSISTOR 2SK389-GR
Q2	8-729-203-21	s	TRANSISTOR 2SK389-GR
R17	1-215-397-00	s	RES, METAL 100 1% 1/6W
R18	1-215-397-00	s	RES, METAL 100 1% 1/6W
R19	1-215-390-00	s	RES, METAL 51 1% 1/6W
R24	1-215-393-00	s	RES, METAL 68 1% 1/6W
R26	1-215-393-00	s	RES, METAL 68 1% 1/6W
R30	1-215-393-00	s	RES, METAL 68 1% 1/6W
R31	1-215-390-00	s	RES, METAL 51 1% 1/6W
R33	1-215-390-00	s	RES, METAL 51 1% 1/6W
R44	1-215-393-00	s	RES, METAL 68 1% 1/6W
R58	1-215-451-00	s	RES, METAL 18K 1% 1/6W
R59	1-215-433-00	s	RES, METAL 3.3K 1% 1/6W
R68	1-215-393-00	s	RES, METAL 68 1% 1/6W
R69	1-215-416-00	s	RES, METAL 620 1% 1/6W
R101	1-214-702-00	s	RES, METAL 75 1% 1/4W
R102	1-214-702-00	s	RES, METAL 75 1% 1/4W
RV1	1-230-837-11	s	RES, ADJ, METAL 100
RV2	1-230-845-11	s	RES, ADJ, METAL 50K
RV3	1-230-840-11	s	RES, ADJ, METAL 1K

(VS-30 BOARD, BVH-3000PS/3100PS)

Ref.No. or Q'ty	Part No.	SP	Description
RV4	1-230-838-11	s	RES, ADJ, METAL 200
RY1	1-515-452-00	s	RELAY, REED
RY2	1-515-452-00	s	RELAY, REED
RY3	1-515-452-00	s	RELAY, REED
RY4	1-515-452-00	s	RELAY, REED
RY5	1-515-452-00	s	RELAY, REED
RY6	1-515-452-00	s	RELAY, REED
S631	1-552-078-00	s	SWITCH, SLIDE
S632	1-552-078-00	s	SWITCH, SLIDE

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

FRAME, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	⚠ 1-413-274-11	o	REGULATOR, SWITCHING UR-20
1pc	1-515-618-12	s	CLUTCH, ELECTOMAGNETIC
1pc	1-548-601-11	s	COUNTER, ELECTROMAGNETIC
1pc (for PS)	⚠ 1-556-371-00	s	CORD, POWER 3P
CN1F (6P connector)			Refer to KY-103 board.
CN001F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN002F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN003F	Refer to DE-18 board.		
CN004F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN006F	1-509-988-00	o	HOUSING, IL 8P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN007F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN008F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN009F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN010F	1-509-983-00	o	HOUSING, IL 2P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN011F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN021F	1-561-891-00	o	HOUSING, PS 26P
	1-560-768-00	o	CONTACT, FEMALE AWG24-28
CN022F	1-509-987-00	o	HOUSING, IL 6P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN024F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN101F (to CD-36 board)			
	1-561-888-00	o	HOUSING, PS 10P
	1-560-768-00	o	CONTACT, FEMALE AWG24-28
CN101F (to SP-01 board)			
	1-561-069-00	o	HOUSING, 2P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN102F (to CD-36 board)			
	1-561-889-00	o	HOUSING, PS 16P
	1-560-768-00	o	CONTACT, FEMALE AWG24-28
CN102F (to SP-01 board)			
	1-561-069-00	o	HOUSING, 2P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN103F (to CD-36 board)			
	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN103F (to SP-02 board)			
	1-561-069-00	o	HOUSING, 2P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20

(FRAME, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
CN104F (to CD-36 board)			
	1-561-890-00	o	HOUSING, PS 20P
	1-560-768-00	o	CONTACT, FEMALE AWG24-28
CN104F (to SP-03 board)			
	1-561-069-	o	HOUSING, 2P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN105F	1-509-986-00	o	HOUSING, IL 5P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN106F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN107F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN108F	1-563-119-11	o	HOUSING, PS 10P
	1-563-115-11	o	CONTACT, FEMALE AWG24-28
CN201F (4P connector to SP-01 board)			
	Refer to SP-01 board.		
CN201F (to RM-43 board)			
	1-561-071-00	o	HOUSING, 6P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN202F (to SP-01 board)			
	1-509-988-00	o	HOUSING, IL 8P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN202F (to RM-43 board)			
	1-561-071-00	o	HOUSING, 6P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN203F (to SP-01 board)			
	1-509-989-00	o	HOUSING, IL 10P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN203F (to RM-43 board)			
	1-561-071-00	o	HOUSING, 6P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN204F (to SP-02 board)			
	1-509-988-00	o	HOUSING, IL 8P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN204F (10P connector to RM-43 board)			
	not replaceable		
CN205F (4P connector to SP-02 board)			
	Refer to SP-02 board.		
CN205F (10P connector to RM-43 board)			
	not replaceable		
CN206F (to SP-03 board)			
	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN206F (to RM-43 board)			
	1-509-987-00	o	HOUSING, IL 6P
CN403F	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN601F (10P connector)			Refer to MA-26 board.
CN602F (3P connector)			Refer to MA-26 board.
CN603F (10P connector)			Refer to MA-26 board.
CN604F (3P connector)			Refer to MA-26 board.
CN605F (3P connector)			Refer to MA-26 board.

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

Ref. No. or Q'ty	Part No.	SP	Description
CN606F	(3P connector)		Refer to MA-26 board.
CN611	(A-1 LINE IN)		Refer to MA-26 board.
CN612	(A-2 LINE IN)		Refer to MA-26 board.
CN613	(A-3 LINE IN)		Refer to MA-26 board.
CN614	(A-4 LINE IN)		Refer to MA-26 board.
CN615	(A-1 LINE OUT)		Refer to MA-26 board.
CN616	(A-2 LINE OUT)		Refer to MA-26 board.
CN617	(A-3 LINE OUT)		Refer to MA-26 board.
CN618	(A-4 LINE OUT)		Refer to MA-26 board.
CN619	(MONITOR-L)		Refer to MA-26 board.
CN620	(MONITOR-R)		Refer to MA-26 board.
CN631F	(VIDEO IN)		Refer to VS-30 board.
CN632F	(VIDEO IN)		Refer to VS-30 board.
CN633F	(REF VIDEO IN)		Refer to VS-30 board.
CN634F	(REF VIDEO IN)		Refer to VS-30 board.
CN635F	(CF PULSE IN)		Refer to VS-30 board.
CN636F	(VIDEO-1 OUT)		Refer to VS-30 board.
CN637F	(VIDEO-2 OUT)		Refer to VS-30 board.
CN638F	(VIDEO-3 OUT)		Refer to VS-30 board.
CN639F	(FR PULSE OUT)		Refer to VS-30 board.
CN640F	(V MONITOR OUT)		Refer to VS-30 board.
CN641F	(WFM OUT)		Refer to VS-30 board.
CN651F	(REMOTE-3)		Refer to PA-56 board.
CN652F	(MONITOR SELECT)		Refer to PA-56 board.
CN653M	(TBC)		Refer to PA-56 board.
CN661F	(REMOTE-1)		Refer to SE-49 board.
CN662F	(REMOTE-2A IN)		Refer to SE-49 board.
CN663F	(REMOTE-2A OUT)		Refer to SE-49 board.
CN664F	(REMOTE-2A I/O)		Refer to SE-49 board.
CN701M	1-559-002-12	s	CABLE ASSY, 8P/8P 2m
	1-559-524-11	s	CABLE ASSY, 8P/8P 10m (OPTION)
CN705F	1-562-153-11	o	HOUSING, 8P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN706F	1-562-155-11	o	HOUSING, 10P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN707F	1-562-153-11	o	HOUSING, 8P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN708F	1-562-155-11	o	HOUSING, 10P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN803F	1-563-127-11	o	HOUSING, PS 26P
	1-563-115-11	o	CONTACT, FEMALE AWG24-28
CN804F (for PS-A4)			
CN805F (for PS-A4)			
CN806F (for PS-A4)			
CN807F (for PS-A4)			
	1-509-984-00	o	HOUSING, IL 3P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN821F	1-563-122-11	o	HOUSING, PS 16P
	1-563-115-11	o	CONTACT, FEMALE AWG24-28

Ref. No. or Q'ty	Part No.	SP	Description
CN831F	1-562-155-11	o	HOUSING, 10P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN832F	1-562-148111	o	HOUSING, 3P
	1-563-088-11	o	CONTACT, FEMALE AWG24-30
CN901F	1-561-828-00	o	HOUSING, 3P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
CN902F	1-562-812-11	o	HOUSING, MIC 13P
	1-560-761-00	o	CONTACT, FEMALE AWG18-22
CN903F	1-509-987-00	o	HOUSING, IL 6P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN904F	1-509-985-00	o	HOUSING, IL 4P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN905F	1-562-810-11	o	HOUSING, MIC 5P
	1-560-761-00	o	CONTACT, FEMALE AWG18-22
CN906F	1-509-986-00	o	HOUSING, IL 5P
	1-560-298-00	o	CONTACT, FEMALE AWG22-28
CN907F	1-561-858-00	o	HOUSING, MIC 17P
	1-560-761-00	o	CONTACT, FEMALE AWG18-22
CN908F	1-561-828-00	o	HOUSING, 3P
	1-561-067-00	o	CONTACT, FEMALE AWG14-20
H1 (V/S erase head)	8-825-725-10	s	HEAD, ERASE EF204-5102
H2 (audio/CTL erase head except PS-A4)	8-825-725-50	s	HEAD, ERASE EF204-5104B
H2 (audio/CTL erase head for PS-A4)	8-825-725-70	s	HEAD, ERASE EF204-5105A
H3 (audio/CTL R/P head except PS-A4)	8-825-771-01	s	HEAD, R/P PA77-5104F
H3 (audio/CTL R/P head for PS-A4)	8-825-737-61	s	HEAD, R/P PA77-5105B
H4 (audio monitor head except PS-A4)	8-825-770-91	s	HEAD, PB PA77-5102
H4 (audio monitor head for PS-A4)	8-825-737-71	s	HEAD, PB PA77-5105C
M1 (threading motor)	1-541-198-00	s	MOTOR, GEARED EN35-H1G9B
M2 (IP roller motor)			Refer to exploded view.
M3 (S-reel motor)	8-835-231-01	s	MOTOR, DC BHF-2202A
M4 (T-reel motor)	8-835-231-01	s	MOTOR, DC BHF-2202A
M5 (capstan motor)	8-835-232-01	s	MOTOR, DC BHF-2301A
M6 (drum motor)			not replaceable
M7 (fan on rear panel)	1-541-327-11	s	MOTOR, FAN, DC
M8 (fan on rear panel)	1-541-327-11	s	MOTOR, FAN, DC

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

(FRAME, BVH-3000PS/3100PS)

Ref. No. or Q'ty	Part No.	SP	Description
M9 (fan on power unit)	1-541-337-21	s	MOTOR, FAN DC
M10 (S-side blower)	1-541-424-11	s	BLOWER
M11 (T-side blower)	1-541-424-11	s	BLOWER
ME1 (AUDIO-1 meter)	1-520-450-12	s	METER, VU
ME2 (AUDIO-2 meter)	1-520-450-12	s	METER, VU
ME3 (AUDIO-3/4 meter)	1-520-450-12	s	METER, VU
ME4 (VIDEO/RF meter)	1-520-451-12	s	METER, VIDEO/RF
PM1 (solenoid for S-reel brake)	1-454-304-00	s	SOLENOID
PM2 (solenoid for T-reel brake)	1-454-304-00	s	SOLENOID
PM3 (solenoid for pinch roller)	1-454-432-11	s	SOLENOID
S1 (POWER switch)	⚠1-570-936-11	s	SWITCH, ROCKER

S631 (75-Ohm switch) Refer to VS-30 board.
S632 (75-Ohm switch) Refer to VS-30 board.

TS1 (Thermal switch) Refer to SP-03 board.
TS2 (Thermal switch) Refer to SP-03 board.
TS201 (Thermal switch) Refer to SP-02 board.
TS202 (Thermal switch) Refer to SP-02 board.
TS301 (Thermal switch) Refer to SP-01 board.
TS302 (Thermal switch) Refer to SP-01 board.

ACCESSORIES SUPPLIED, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	SP	Description
1pc	A-6001-007-A	s	EX-136 ASSY

(Refer to "EX-136 board" for the components.)

Ref.No. or Q'ty	Part No.	SP	Description
1pc	1-506-421-00	s	ADAPTOR, PLUG, PHONE
1pc	1-565-515-11	s	PLUG, D-SUB 37P MALE
1pc	1-565-516-11	s	PLUG, D-SUB 50P MALE
1pc	1-563-378-11	s	SHELL, D-SUB 37P
1pc	1-563-379-11	s	SHELL, D-SUB 50P
1pc	3-714-815-01	o	SHEET, MAINTENANCE
1pc	3-714-847-01	o	SHEET, A, OVERLAY
2pcs	3-714-847-11	o	SHEET, B, OVERLAY
2pcs	3-714-851-01	o	LABEL, KEY ID
4pcs	7-623-212-22	s	SW 5, TYPE2
4pcs	7-682-578-04	s	SCREW, +B5x16
4pcs	7-688-005-03	s	W5, SMALL

NOTE : Please see pages D-42 and D-43 for the part numbers of capacitors and resistors that are not listed in the parts list.

OPTIONAL FIXTURE, BVH-3000PS/3100PS

Ref.No. or Q'ty	Part No.	Description
	J-6040-160-A	PLATE, FLAT
	J-6040-460-A	SCREW, TAPERED
	J-6041-640-A	TENSION SCALE, 5kg
	J-6041-670-A	THICKNESS GAUGE
	J-6041-700-B	ALLEN WRENCH SET
	J-6041-770-A	TEST CLIP, IC, TC-16
	J-6041-780-A	TEST CLIP, IC, TC-20
	J-6043-720-A	BRAKE ADJUSTMENT FIXTURE
	J-6250-800-A	ADJUSTMENT GAUGE, DRUM ECCENTRICITY
	J-6250-810-A	ADJUSTMENT PIN, FOR ECCENTRICITY GAUGE
	J-6251-960-A	TENSION ADJUSTMENT TOOL
	J-6252-210-A	MICROSCOPE, HEAD TIP
	J-6252-330-A	TOOL KIT
	2-034-697-00	CLEANING PIECE
	7-700-733-01	ALIGNMENT SCREWDRIVER, SLOTTED HEAD
	7-700-751-02	NUT DRIVER, 5.5mm
	7-700-766-02	SCREWDRIVER, HEX, 1.4mm
	7-700-766-03	SCREWDRIVER, HEX, 2mm
	7-700-766-04	SCREWDRIVER, HEX, 2.5mm
	7-700-766-05	SCREWDRIVER, HEX, 3mm
	7-723-902-00	MIRROR, INSPECTION
	8-944-005-63	ALIGNMENT TAPE, BR5-2PS-A4

SECTION E
CHANGED PARTS

UP TO #10999 (BVH-3000PS;EK) UP TO #11699 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11701 & UP (BVH-3100PS;EK)

ACCESSORIES SUPLIED (BVH-3000PS/3100PS)

1pc	1-560-771-00 s PLUG, D-SUB 37P MALE	1-565-515-11 s PLUG, D-SUB 37P MALE
1pc	1-560-772-00 s PLUG, D-SUB 50P MALE	1-565-516-11 s PLUG, D-SUB 50P MALE

UP TO #10799 (BVH-3000PS;EK) UP TO #11199 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #11201 & UP (BVH-3100PS;EK)

VO-16 BOARD (BVH-3000PS/3100PS)

C233	1-124-282-00 s CAP, ELECT, NONPOLAR 22uF 20% 25V	1-124-284-00 s CAP, ELECT, NONPOLAR 10uF 20% 16V

UP TO #10899 (BVH-3000PS;EK) UP TO #11399 (BVH-3100PS;EK)	#10901 & UP (BVH-3000PS;EK) #11401 & UP (BVH-3100PS;EK)

VS-30 BOARD (BVH-3000PS/3100PS)

C100	NOT IN USE	1-162-806-11 s CAP, CERAMIC 0.1uF 10% 50V
C101	NOT IN USE	1-107-157-00 s CAP, MICA 27pF 5% 500V

VO-16 BOARD (BVH-3000PS/3100PS)

R537	1-215-449-00 s RES, METAL 15K 1% 1/6W	1-215-454-00 s RES, METAL 24K 1% 1/6W
R539	1-215-401-00 s RES, METAL 150 1% 1/6W	1-215-402-00 s RES, METAL 160 1% 1/6W

UP TO #10799 (BVH-3000PS;EK) UP TO #10999 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #11001 & UP (BVH-3100PS;EK)

VO-16 BOARD (BVH-3000PS/3100PS)

R555	1-249-429-11 s RES, CARBON 10K 5% 1/4W	1-249-430-11 s RES, CARBON 12K 5% 1/4W

HANGED PARTS

	UP TO #11099 (BVH-3000PS;EK) UP TO #11699 (BVH-3100PS;EK)	#11101 & UP (BVH-3000PS;EK) #11701 & UP (BVH-3100PS;EK)

VS-30 BOARD (BVH-3000PS/3100PS)

C70	1-109-554-00 s CAP, MICA 510PF 5% 500V	1-164-127-11 s CAP, CERAMIC 510PF 5% 50V

	UP TO #10799 (BVH-3000PS;EK) UP TO #11199 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #11201 & UP (BVH-3100PS;EK)

AP-15 BOARD (BVH-3000PS/3100PS)

R33,35,39,40	1-215-477-00 s RES, METAL 220K 1% 1/6W	1-215-453-00 s RES, METAL 22K 1% 1/6W
(for A4) R457	1-249-415-11 s RES, CARBON 680 5% 1/4W	1-249-417-11 s RES, METAL 1K 5% 1/4W
(for A4) R458	1-247-897-11 s RES, CARBON 560K 5% 1/4W	1-247-901-11 s RES, CARBON 820K 5% 1/4W
(for A4) C445	1-130-487-00 s CAP, MYLAR 0.022uF 5% 50V	1-130-485-00 s CAP, MYLAR 0.015uF 5% 50V

VO-16 BOARD (BVH-3000PS/3100PS)

R559	1-249-407-11 s RES, CARBON 150 5% 1/4W	DELETED
C516	1-162-761-11 s CAP, CERAMIC 470PF 5% 50V	DELETED
R801	1-249-385-11 s RES, CARBON 2.2 5% 1/4W	DELETED
R554	1-249-429-11 s RES, CARBON 10K 5% 1/4W	1-215-445-00 s RES, METAL 10K 1% 1/6W
R555	1-249-430-11 s RES, CARBON 12K 5% 1/4W	1-215-445-00 s RES, METAL 10K 1% 1/6W
IC2,37	8-749-936-51 s IC, BX-365A	8-749-900-63 s IC, BX-365AL
R17	1-215-432-00 s RES, METAL FILM 3 1% 1/6W	1-249-401-11 s RES, CARBON (SMALL) 47 5% 1/4W
R503	1-215-382-00 s RES, METAL FILM 24 1% 1/6W	1-215-381-00 s RES, METAL FILM 22 1% 1/6W

CK-27 BOARD (BVH-3000PS/BVH-3100PS)

C801	1-162-759-00 s CAP, CERAMIC 330PF 5% 50V	1-162-710-11 s CAP, CERAMIC 100PF 5% 50V

UP TO #10799 (BVH-3000PS;EK) UP TO #10999 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #11001 & UP (BVH-3100PS;EK)

CK-27 BOARD (BVH-3000PS/3100PS)

C804	1-102-111-00 s	CAP, CERAMIC 270PF 10% 50V	1-162-724-11 s	CAP, CERAMIC 390PF 5% 50V

V0-16 BOARD (BVH-3000PS/3100PS)

R292	1-215-438-00 s	RES, METAL 5.1K 1% 1/6W	1-215-435-00 s	RES, METAL 3.9K 1% 1/6W
R372	1-215-400-00 s	RES, METAL 130 1% 1/6W	1-215-398-00 s	RES, METAL 110 1% 1/6W
R615	1-215-489-00 s	RES, METAL 680K 1% 1/6W	1-215-493-00 s	RES, METAL 1M 1% 1/6W

UP TO #10799 (BVH-3000PS;EK) UP TO #11199 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #11201 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

R51	1-249-441-11 s	RES, CARBON 100K 5% 1/4W	1-249-437-11 s	RES, CARBON 47K 5% 1/4W
R80	1-247-891-00 s	RES, CARBON 330K 5% 1/4W	1-247-883-00 s	RES, CARBON 150K 5% 1/4W
C45	1-130-471-00 s	CAP, MYLAR 0.001uF 5% 50V	1-130-479-00 s	CAP, MYLAR 0.0047uF 5% 50V

UP TO #10799 (BVH-3000PS;EK) UP TO #10899 (BVH-3100PS;EK)	#10801 & UP (BVH-3000PS;EK) #10901 & UP (BVH-3100PS;EK)

SY-103 BOARD (BVH-3000PS/3100PS)

ICH11	8-759-780-41 s	IC, EPROM 27C256-Y1A2-0-0	8-759-783-80 s	IC, EPROM 27C256-Y1A2-1-0
ICH12	8-759-780-40 s	IC, EPROM 27C256-Y0A2-0-0	8-759-783-79 s	IC, EPROM 27C256-Y0A2-1-0

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3	8-759-780-43 s	IC, EPROM 27C256-V1U2-0-0	8-759-783-76 s	IC, EPROM 27C256-V1U2-1-0
ICN5	8-759-780-42 s	IC, EPROM 27C256-V0U2-0-0	8-759-783-75 s	IC, EPROM 27C256-V0U2-1-0

CHANGED PARTS

UP TO #10799 (BVH-3000PS;EK)
UP TO #11199 (BVH-3100PS;EK)

#10801 & UP (BVH-3000PS;EK)
#11201 & UP (BVH-3100PS;EK)

CK-27 BOARD (BVH-3000PS/3100PS)

D20,21	8-719-911-19 s DIODE 1SS119	DELETED

UP TO #10899 (BVH-3000PS;EK)
UP TO #11199 (BVH-3100PS;EK)

#10901 & UP (BVH-3000PS;EK)
#11201 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3	8-759-783-76 s IC, EPROM 27C256-V1U2-1-0	8-759-784-82 s IC, MBM 27C256-V1U2-2-0
ICN5	8-759-783-75 s IC, EPROM 27C256-V0U2-1-0	8-759-784-81 s IC, MBM 27C256-V0U2-2-0

SY-103 BOARD (BVH-3000PS/BVH-3100PS)

ICH11	8-759-783-80 s IC, EPROM 27C256-Y1A2-1-0	8-759-784-86 s IC, EPROM 27C256-Y1A2-2-0
ICH12	8-759-783-79 s IC, EPROM 27C256-Y0A2-1-0	8-759-784-85 s IC, EPROM 27C256-Y0A2-2-0

UP TO #10910 (BVH-3000PS;EK)
UP TO #11699 (BVH-3100PS;EK)

#11001 & UP (BVH-3000PS;EK)
#11701 & UP (BVH-3100PS;EK)

CK-27 BOARD (BVH-3000PS/3100PS)

C804	1-162-724-11 s CAP, CERAMIC 390PF 50V	1-162-726-11 s CAP, CERAMIC 470PF 50V
R804	1-215-431-00 s RES, METAL 2.7K 1% 1/6W	1-215-425-00 s RES, METAL 1.5K 1% 1/6W
R814	1-215-428-00 s RES, METAL 2K 1% 1/6W	1-215-451-00 s RES, METAL 18K 1% 1/6W

RD-7 BOARD (BVH-3000PS/3100PS)

R327	1-215-486-00 s RES, METAL 510K 1% 1/6W	1-215-483-00 s RES, METAL 390K 1% 1/6W
R620	NOT IN USE	1-249-429-11 s RES, CARBON 10K 5% 1/4W

	UP TO #10910 (BVH-3000PS;EK) UP TO #11699 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11701 & UP (BVH-3100PS;EK)

VO-16 BOARD (BVH-3000PS/3100PS)

R705,706	NOT IN USE	1-215-383-00 s RES, METAL 27 1% 1/6W
R707,708	NOT IN USE	1-215-403-00 s RES, METAL 180 1% 1/6W
R292	1-215-438-00 s RES, METAL 5.1K 1% 1/6W	1-215-435-00 s RES, METAL 3.9K 1% 1/6W
R372	1-215-400-00 s RES, METAL 130 1% 1/6W	1-215-398-00 s RES, METAL 110 1% 1/6W
R615	1-215-489-00 s RES, METAL 680K 1% 1/6W	1-215-493-00 s RES, METAL 1M 1% 1/6W
FB1,2,3,4	1-535-178-00 s RES, FERRITE	DELETED

	UP TO #10999 (BVH-3000PS;EK) UP TO #11599 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11601 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3	8-759-784-82 s IC, MBM 27C256-V1U2-2-0	8-759-785-97 s IC, MBM 27C256A-V1U2-3-0
ICN5	8-759-784-81 s IC, MBM 27C256-V0U2-2-0	8-759-785-98 s IC, MBM 27C256A-V0U2-3-0

	UP TO #10899 (BVH-3000PS;EK) UP TO #11399 (BVH-3100PS;EK)	#10901 & UP (BVH-3000PS;EK) #11401 & UP (BVH-3100PS;EK)

SY-103 BOARD (BVH-3000PS/3100PS)

ICH11	8-759-784-86 s IC, MBM27C256-Y1A2-2-0	8-759-786-12 s IC, MBM27C256A-Y1A2-3-0
ICH12	8-759-784-85 s IC, MBM27C256-Y0A2-2-0	8-759-786-11 s IC, MBM27C256A-Y0A2-3-0

UP TO #11099 (BVH-3000PS;EK) UP TO #11999 (BVH-3100PS;EK)	#11101 & UP (BVH-3000PS;EK) #12001 & UP (BVH-3100PS;EK)

REEL TABLE ASSEMBLY (BVH-3000PS/3100PS)

SPRING COMPRESSION 3-558-760-00	SPRING COMPRESSION 3-534-216-00

	UP TO #11199 (BVH-3000PS;EK) UP TO #12299 (BVH-3100PS;EK)	#11201 & UP (BVH-3000PS;EK) #12301 & UP (BVH-3100PS;EK)

DD-7 BOARD (BVH-3000PS/3100PS)

Q12,13	8-769-350-01 s TRANSISTOR 2SC1762-1	8-729-141-78 s TRANSISTOR 2SC3632-K
Q5,8	8-769-350-02 s TRANSISTOR 2SC1762-2	8-729-141-78 s TRANSISTOR 2SC3632-K
Q4,6,7	8-769-360-01 s TRANSISTOR 2SA911-1	8-729-118-43 s TRANSISTOR 2SA1413-L

RD-7 BOARD (BVH-3000PS/3100PS)

R98	1-215-457-00 s RES, METAL 33K 1% 1/6W	1-215-456-00 s RES, METAL 30K 1% 1/6W

VO-16 BOARD (BVH-3000PS/3100PS)

D28	NOT IN USE	8-719-911-19 s DIODE 1SS119

	UP TO #11099 (BVH-3000PS;EK) UP TO #11999 (BVH-3100PS;EK)	#11101 & UP (BVH-3000PS;EK) #12001 & UP (BVH-3100PS;EK)

DS-19 BOARD (BVH-3000PS/3100PS)

CN005	NOT IN USE	1-560-301-00 s RECEP IL 4P MALE
D21	NOT IN USE	8-719-200-02 s DIODE 10E-2
Q16	NOT IN USE	8-729-900-61 s TRANSISTOR DTA114ES
Q17	NOT IN USE	8-729-378-84 s TRANSISTOR 2SD788-5
R78	NOT IN USE	1-249-413-11 s RES, CARBON 470 5% 1/4W
R79	NOT IN USE	1-249-425-11 s RES, CARBON 4.7K 5% 1/4W

	UP TO #10999 (BVH-3000PS;EK) UP TO #11799 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11801 & UP (BVH-3100PS;EK)

VO-16 BOARD (BVH-3000PS/3100PS)

C851,852,853,854	NOT IN USE	1-101-005-00 s CAP, CERAMIC 0.022uF 50V
C327,328,340,342	1-101-005-00 s CAP, CERAMIC 0.022uF 50V	1-124-927-11 s CAP, ELECT 4.7 20% 100V

UP TO #10999 (BVH-3000PS;EK) UP TO #11699 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11701 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3 8-759-785-97 s IC, MBM27C256-V1U2-3-0............8-759-787-17 s IC, MBM27C256-V1U2-4-0
ICN5 8-759-785-98 s IC, MBM27C256-V0U2-3-0............8-759-787-18 s IC, MBM27C256-V0U2-4-0

RD-7 BOARD (BVH-3000PS/3100PS)

ICM14 8-759-782-54 s IC, MBM27C64-RDU2-1-0.............8-759-787-19 s IC, MBM27C64-RDU2-2-0

UP TO #11099 (BVH-3000PS;EK) UP TO #12199 (BVH-3100PS;EK)	#11101 & UP (BVH-3000PS;EK) #12201 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICL12,N12,N14,N15,N17,N19
8-759-105-77 s IC UPD71054C......................8-752-806-91 s IC CXQ71054P

KC-14 BOARD (BVH-3000PS/3100PS)

BZ101 1-529-015-11 s BUZZER.........................1-529-025-00 s BUZZER

RD-7 BOARD (BVH-3000PS/3100PS)

ICJ18,J19,J21,K15,K17,K18,K19,K21
8-759-105-77 s IC UPD71054C......................8-752-806-91 s IC CXQ71054P

SY-103 BOARD (BVH-3000PS/3100PS)

ICH8 8-759-105-77 s IC UPD71054C......................8-752-806-91 s IC CXQ71054P

UP TO #10999 (BVH-3000PS;EK) UP TO #11899 (BVH-3100PS;EK)	#11001 & UP (BVH-3000PS;EK) #11901 & UP (BVH-3100PS;EK)

FRONT PANEL ASSEMBLY (BVH-3000PS/3100PS)

PANEL ASSY, REEL o A-6004-166-B.........................PANEL ASSY, REEL o A-6004-166-C

HANGED PARTS

	UP TO #11199 (BVH-3000PS;EK) UP TO #12399 (BVH-3100PS;EK)	#11201 & UP (BVH-3000PS;EK) #12401 & UP (BVH-3100PS;EK)
SV-90 BOARD (BVH-3000PS/3100PS)		
ICC7,C9	8-759-240-53 s TC4053BP	8-759-208-10 s TC4053BPHB
ICE4,E8,F10,F11	8-759-240-51 s TC4051BP	8-759-208-06 s TC4051BPHB
CK-27 BOARD (BVH-3000PS/3100PS)		
ICP2,P20	8-759-240-53 s TC4053BP	8-759-208-10 s TC4053BPHB
AU-88 BOARD (BVH-3000PS/3100PS)		
IC520,721,722	8-759-240-51 s TC4051BP	8-759-208-06 s TC4051BPHB

	UP TO #11299 (BVH-3000PS;EK) UP TO #12499 (BVH-3100PS;EK)	#11301 & UP (BVH-3000PS;EK) #12501 & UP (BVH-3100PS;EK)
VO-16 BOARD (BVH-3000PS/3100PS)		
FL1,2	1-235-961-11 s FILTER, LOW-PASS	1-235-961-12 s FILTER, LOW-PASS

UP TO #11099 (BVH-3000PS;EK)
UP TO #11299 (BVH-3100PS;EK)

#11101 & UP (BVH-3000PS;EK)
#11301 & UP (BVH-3100PS;EK)

RD-7 BOARD (BVH-3000PS/3100PS)

R98 1-215-456-00 S RES, METAL 30k 5% 2W.............1-215-455-00 S RES, METAL 27k 1% 1/6W

UP TO #11199 (BVH-3000PS;EK)
UP TO #11499 (BVH-3100PS;EK)

#11201 & UP (BVH-3000PS;EK)
#11501 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3 8-759-787-17 S IC MBM27C256A-V1U2-4-0............8-759-741-94 S IC MBM27C256A-V1U3-0-0
ICN5 8-759-787-18 S IC MBM27C256A-V0U2-4-0............8-759-741-93 S IC MBM27C256A-V0U3-0-0

UP TO #11299 (BVH-3000PS;EK)
UP TO #12599 (BVH-3100PS;EK)

#11301 & UP (BVH-3000PS;EK)
#12601 & UP (BVH-3100PS;EK)

SY-103 BOARD (BVH-3000PS/3100PS)

ICH11 8-759-786-12 S IC MBM27C256A-Y1A2-3-0............8-759-742-99 S IC MBM27C256A-Y1A2-4-0
ICH12 8-759-786-11 S IC MBM27C256A-Y0A2-3-0............8-759-742-98 S IC MBM27C256A-Y0A2-4-0

UP TO #11299 (BVH-3000PS;EK)
UP TO #12699 (BVH-3100PS;EK)

#11301 & UP (BVH-3000PS;EK)
#12701 & UP (BVH-3100PS;EK)

SV-90 BOARD (BVH-3000PS/3100PS)

ICN3 8-759-741-94 S IC MBM27C256A-V1U3-0-0............8-759-742-76 S IC MBM27C256A-V1U3-1-0
ICN5 8-759-741-93 S IC MBM27C256A-V0U3-0-0............8-759-742-75 S IC MBM27C256A-V0U3-1-0

VO-16 BOARD (BVH-3000PS/3100PS)

C750 1-101-005-00 S CAP, CERAMIC 0.022uF 50V..........DELETED

HANGED PARTS

UP TO #11299 (BVH-3000PS;EK)
UP TO #12799 (BVH-3100PS;EK)

#11301 & UP (BVH-3000PS;EK)
#12801 & UP (BVH-3100PS;EK)

AU-88 BOARD (BVH-3000PS/3100PS)

IC6	8-759-202-17 S IC TC74HC14P	8-759-916-20 S IC SN74HC14N

CK-27 BOARD (BVH-3000PS/3100PS)

ICN1, N2	8-759-203-21 S IC TC74HC273P	8-759-916-79 S IC SN74HC273N

DS-19 BOARD (BVH-3000PS/3100PS)

IC2	8-759-202-17 S IC TC74HC14P	8-759-916-20 S IC SN74HC14N

KC-14 BOARD (BVH-3000PS/3100PS)

ICE7	8-759-000-99 S IC MC74HC74N	8-759-916-29 S IC SN74HC74N

KY-103 BOARD (BVH-3000PS/3100PS)

IC7, 8, 9, 10, 11, 12	8-759-203-21 S IC TC74HC273P	8-759-916-79 S IC SN74HC273N

RD-7 BOARD (BVH-3000PS/3100PS)

ICK2, M15	8-759-202-56 S IC TC74HC245P	8-759-921-34 S IC SN74HC245N
ICJ16	8-759-202-12 S IC TC74HC02P	8-759-921-08 S IC SN74HC02N
ICJ17	8-759-203-21 S IC TC74HC273P	8-759-916-79 S IC SN74HC273N
ICL15	8-759-202-95 S IC TC74HC155P	8-759-232-62 S IC TC74HC155AP

SV-90 BOARD (BVH-3000PS/3100PS)

ICB6, H10, K8	8-759-202-12 S IC TC74HC02P	8-759-921-08 S IC SN74HC02N
ICD13, E17, F17	8-759-202-27 S IC TC74HC157P	8-759-916-50 S IC SN74HC157N
ICD16, D17, M1, M2	8-759-202-56 S IC TC74HC245P	8-759-921-34 S IC SN74HC245N
ICG7	8-759-202-33 S IC TC74HC240P	8-759-916-65 S IC SN74HC240N
ICH19	8-759-202-17 S IC TC74HC14P	8-759-916-20 S IC SN74HC14N
ICJ7, J9, J12, J20 ICK11, M9, M10, N2	8-759-202-22 S IC TC74HC74P	8-759-916-29 S IC SN74HC74N

SY-103 BOARD (BVH-3000PS/3100PS)

C187	NOT IN USE	1-102-110-00 S CAP, CERAMIC 220PF 10% 55V
ICA1, B1, H1, J11	8-759-202-17 S IC TC74HC14P	8-759-916-20 S IC SN74HC14N
ICA10, B7, C8, E5 ICG12, J9, K11	8-759-000-99 S IC MC74HC74N	8-759-916-29 S IC TC74HC74N
ICD8, H2, H3, H4	8-759-202-27 S IC TC74HC157P	8-759-916-50 S IC SN74HC157N
ICD14	8-759-202-33 S IC TC74HC240P	8-759-916-65 S IC SN74HC240N
ICJ4, J13, K1, K2	8-759-202-56 S IC TC74HC245P	8-759-921-34 S IC SN74HC245N